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ABSTRACT

Developed cooperatively between the Occupational Informations and Guidance Services Center under the Community College System and the Department of Educational Psychology at the University of Hawaii, this occupational resource manual for Hawaii, bound in a 3-ring notebook, contains pertinent information for students, parents, counselors, and teachers on career opportunities, vocational education programs, job requirements, and job placement. For each of 15 occupational clusters, national and local employment opportunities, a general description, training and educational programs, and extensive job summaries correlated with the Dictionary of Occupational Titles are presented. Other resource materials include: (1) general job information, (2) Hawaii State Employment Service, (3) programs for the disadvantaged, (4) training program opportunities, (5) a discussion of the future as it may affect individual career plans, (6) acknowledgments to community leaders, and (7) a brief reference list. A bibliography, general index, and an index of programs for the disadvantaged are included, as well as a detailed description of the manual's development and instructions for the user. Sub-indexes are included for the job areas, which emphasize career opportunities available for those with up to 2 years of post-secondary training. (AG)

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ED 068689

OCCUPATIONAL RESOURCE MANUAL
FOR
HAWAII

MINNIE KOMAGOME, TASK DIRECTOR
MERRILL ENDERTON
THOMAS A. GILL
JAMES HARDIN
NORMAN PIIANAIA
WILLIAM REGER
AMY SIMS

VT 017 190

For the great law of culture is: Let each become all that he was created capable of being; expand, if possible, to his full growth; resisting all impediments, casting off all foreign, especially all noxious adhesions; and show himself at length in his own shape and stature, be these what they may. There is no uniform of excellence, either in physical or spiritual nature. All genuine things are what they ought to be.

Thomas Carlyle, 1827

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OCCUPATIONAL RESOURCE MANUAL FOR HAWAII

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FOREWORD

Evaluation reports frequently state that counseling and guidance in educational institutions need improvement, but do not go beyond that statement to recommend ways and means of ameliorating the situation. The development of this resource manual will inevitably provide counselors and teachers with answers to the inquiries of students. In some cases, students or their parents can seek information pertaining to job opportunities, occupational education programs, job requirements, and how to get a job.

The valuable information contained in the resource manual will be kept updated and the document will be available to counselors and both school and public libraries.

Sam Shigetomi
State Director for Vocational
Education

INTRODUCTION

This Occupational Resource Manual for Hawaii (ORMH) is the product of a cooperative endeavor between the Occupational Information and Guidance Services Center (OIGSC) under the Community College System and the Department of Educational Psychology, College of Education, University of Hawaii. The Manual consists of this Introduction and sections on general information about How to Get a Job, Hawaii State Employment Services, Programs for the Disadvantaged, Training Programs, Scanning the Futures, Acknowledgments, References and Employment Summaries revolving around 15 occupational clusters. These clusters were suggested by the Office of Education and constitute the principal constraint or "guideline" for the organization, development, production and distribution of the Manual.

This degree of freedom is, of course, a mixed blessing. It offers the condition for bold and creative invention on the one hand, and on the other, poses the abiding threat of--as some would put it--"bombing-out." But how can the Occupational Resource Manual for Hawaii be more than a harvesting, processing, packaging and distribution problem? What is so inventive about that? Why not publicize the Dictionary of Occupational Titles (DOT), conduct workshops on its uses and see to it that there are DOT instructional units included in the high schools, community colleges and universities? Such units could include the wealth of information related to the 1965 revision plus earlier editions -- personality traits of workers in given occupations, the General Aptitude Test Battery and specialized tests, job satisfaction, job mobility and a host of other associated data. Together with information about jobs available locally and nationally, about occupational trends for Hawaii and elsewhere and on training programs, would there really be a need for the ORMH?

To be sure, it is very disquieting even to contemplate a resource manual already outdated upon publication without heaping on the stinging awareness that the DOT is vastly superior in comprehensiveness, details, research data, etc. to any manual on occupations supported by funds, the entirety of which would about pay for one professional administrator. Underfunded projects like undercapitalized businesses can look to failure as their destiny.

Furthermore, it is evident that the pressing need today is not for any more document production -- who has read just those in his special interest areas with any depth, scope and regularity? -- but rather rapid, and preferably instant information display comparable to those available to the commanding general of the Strategic Air Command.

Why then another document, the Occupational Resource Manual for Hawaii (ORMH) to add to the bulging collections in our archives, reference bureaus, libraries, etc.? That route has already been tried and shown you-can't-get-there-from-here. Thus, if the ORMH defines one of the salient attributes of an "exemplary" project, Hawaii must surely be stretching the bounds of credulity.

Exemplary Features of ORMH

The Manual in reality provided the occasion for a demonstration, a first fitting of a problem-solving pattern consisting of service, training, research and dissemination to an actual life problem -- the organization, production, distribution of ORMH. Ordinarily the ORMH would have been a task undertaken by a community agency or by one of the departments of the State of Hawaii. But, too frequently our human services agencies are constructed in the manner that encourages institutional rot, territorial imperatives, bureaucratic mentality, and all those characteristics that stifle creativity, erode morale and promote conformity.

Clearly there is a compelling need for new and improved problem-solving procedures. The human talent and freedom essential to effective and efficient problem-solving reside in our universities more often than in the downtown community. But for many reasons, our cherished universities are not very well organized to solve the gripping, agonizing human problems that plague us and threaten our very existence. Areas of knowledge or academic disciplines are arranged by departments while modern human problems require interdisciplinary efforts for solutions. Moreover, the search for solutions to human problems is not always the primary goal of all university faculty. Many professors steadfastly maintain that the discovery of truth and knowledge is justification sufficient for the existence of a university. The social utility of such discoveries should be left to professional schools and trade schools, according to those professors. Universities they claim are not meant to be service stations. This hand-me-down orientation from the Middle Ages amidst today's problems is under considerable criticism, and in the face of it, various alternatives are being tried by universities to become socially more responsive and responsible. The task of producing the ORMH represents one such alternative.

Essentially, a group of capable undergraduate and graduate students were tapped in the fashion of "Whiz Kids" and assigned the task of producing the ORMH under faculty supervision. No artificial or simulated problem. It was the "real thing." Faculty supervision was mainly to clear obstacles, provide "guidance" and lend legitimacy to the task. The professor's role was defined as a resource person or consultant, much as one finds his role in public and private agencies in the community.

The education which these students experienced including the "consultations" with Dr. Tim Gust, my colleague whose specialty is vocational and rehabilitation counseling, represents one of the several "Adventures in Higher Education" which I have been designing for the past several years. In a way it is precisely what we need to do, if the ideal of a vocational guidance program is to be realized. With the astronomical quantity of vocational information, the prodigious rate of new knowledge production, the multiplicity of agencies directly and indirectly involved in vocational matters, political and other influences -- just those few factors are more than enough to lead us to this inescapable conclusion: Students need to learn world-wiseness ways.

Specifically, they need to learn skills in gaining access to the various storehouses of vocational information, whether these be in libraries, ERIC, union halls or the cortex of experts. They need further to learn procedures to validate such information, and to specify the means by which revisions and readjustments are to be accomplished. Where occupational information or procedures are lacking, students should be prepared to create and invent them.

The organization and utilization of student problem-solving groups or task forces avert a variety of problems that in our typical public and private agencies tend to lead to mind mechanization and self-interest and institutional decay. For one thing they supply far more manpower for the funding than would the traditional personnel practices of agencies. The legal and professional responsibility would, of course, be assigned to a qualified administrator. For another they do not create union-type problems -- demands for more money, less hours, etc. This feature is particularly attractive currently as Hawaii is embroiled in collective bargaining with its public employees in a period of tight fiscal control. For still another, the natural staff "turnover" promotes creativity and innovation, assures a continual supply of fresh and vigorous personnel of superior intellectual endowment and impedes self-serving growth. Too, unlike service by our youth in the Peace Corps, VISTA or Armed Forces, our university-based ORMH operations heighten the prospects that the insights and discoveries of our scholars and researchers will be transformed to workable solutions for community problems. Conversely, the student "extension" agents are likely to bring back to the university the myriad of vexing if not fascinating community problems, and attempted solutions, of which many professors are not aware. Such awareness could result in the sensitization of more professors to community needs. These professors might then be spurred to search for solutions and to develop installation procedures to insure the successful innovation of their findings.

In this manner, solving human problems and amplifying human potential are more apt to be realized by the cooperative and coordinated efforts of students, community and university than by each alone. Learning then would be as "relevant" as it is mutual. Cooperative and coordinated efforts are far easier to manage with a small group of students than with the large personnel force of public and private institutions.

Task orientation for the students centered on defining the service to be delivered, the methods for gathering occupational information, the strategy for identifying knowledgeable people, reviewing and reworking the objectives and considering the problems of publication and distribution. Through the use of selected university students in an _indivisible_ configuration of _service_, _training_, _research_ and _dissemination_, it was believed that an exemplary facet of the Occupational Information Center of Hawaii could be demonstrated.

Service

The service aspect of the demonstration was limited to a compilation of job summaries appropriate for Hawaii -- the production of the ORMH. This limitation was set by a formal agreement between the Center and the Department of Educational Psychology. _But understanding the task entailed much more_. Community cooperation, job futures in Hawaii, anticipated training programs, Asian-Pacific development, ecological trends, changing state goals -- these were a few of the issues and problems associated with the production of the ORMH. Too, the 15 occupational clusters were merely the shells into which job summaries had to be filled. More often than desired, specific jobs could be assigned to more than one cluster. Sometimes they did not belong in any cluster. Both occupational fields and levels were blurred for the lack of differentiating criteria.

Training

What better method of learning the problem of job classification! And the need to organize jobs according to meaningful similarities into groups or "clusters" so that occupational survival and career satisfaction could be assured in a changing world? The students strained and struggled as they crawled toward a dawning realization that the rationale and techniques for job "clustering" are not entirely satisfactory not even with the application of sophisticated multivariate statistical procedures. It may be that adaptability to a changing world of work will depend more upon our ability to forge educational programs that reward students for producing many rather than single solutions to a wide range of problems including vocational ones than upon our ability to mold job clusters.

The frustration, confusion and anxiety of the student staff was so great at times that it was tempting for me to resume the professor-student game. But if one truly believes that for a sound education both learning through books as well as through experiences are essential, and that affective learning cannot be separated from cognitive learning, then students should be offered the conditions for such learning. For the professor there are certainly profound risks, and I bear the responsibility willingly for my students, for the quality and value of their work much as a master craftsman does for his apprentices.

Research

The extent of our data collecting operations -- research in its loose sense -- is suggested through the list of references and the acknowledgements to the many in the vineyards who cooperated. It is impossible to thank everyone who helped and impractical to present a total bibliography. Further, except for that included in the section on scanning the future, our analysis and discussion of occupational trends and job futures have been omitted since these were beyond the scope of our task. Nonetheless, mini-surveys of job futures are included in the specific job clusters.

Dissemination

The distribution of the ORMH is a part of the dissemination plan. Another aspect will be the workshops to be conducted on its use for counselors in regular and community college education, employment service and vocational rehabilitation. A further means for dissemination will be through students' participation in the annual Hawaii Practical and Vocational Arts convention. Visual aids, movies, etc. are means that will be considered for dissemination. The plan also calls for publication in a professional journal of the exemplary features of our task. Much of the dissemination will necessitate translating technical language into language appropriate to a variety of audiences.

It should be evident then that imbedded in the task of producing the Occupational Resource Manual for Hawaii (ORMH) were the inseparable functions of service, training, research and dissemination. Whether this demonstration of a coordinated configuration of service, training, research and dissemination is successful, only the consumers and evaluators can judge.

The fact that the ORMH is a definitive document for the State of Hawaii encourages us that our efforts were worthwhile. No claim, however, is made that it is either complete or exhaustive, for the Manual concentrates primarily on a substantial sampling of entry level jobs available in Hawaii or those not requiring baccalaureate or graduate degrees. It should be understood that the Manual is meant to initiate a process that needs to be sustained and nurtured, if the objectives for which the task of its production are to be met. A comprehensive system for the location, acquisition, storage, retrieval, processing, distribution, modification, manufacturing and validation of occupational information might best be accomplished through an elaboration of this demonstration.

To assess the training arm of this demonstration, a detailed "course evaluation" was conducted by the students. Student task director, Minnie Komagome, presents herewith a summary of the findings:

> *While students have long asked for relevance and meaning in their educational experiences, schools as institutions have remained, for the most part, singularly unresponsive to their needs. The kind of rote and passive education to which many students are exposed; where the teacher is seen as the stimulus to which the student must provide the correct response, where interpersonal communication is valued less than silence and an expression of attentiveness; where, because structure is always provided, fear of ambiguity and change become prepotent, is the kind of education which fails to help the student gain skills in dealing with the critical life experiences he must inevitably face and which ill prepares him for anything except the next higher level of schooling.*
>
> *It is perhaps this loss of potency and the sense of thwarted self-mastery which result in quiet desperation or the violence of student protest. Those of us who have worked on developing this manual have gained some insight and experienced renewed feelings about what constitutes relevance for us in education. It was not the accumulation of facts, interesting as some of them were, or their transmission by our writing, but the chance to exercise, develop, and reinforce personal skills which confirmed our individual senses of self-worth.*
>
> *Given only the end goal of an occupational information resource manual covering fifteen areas and no guidelines for implementation or definition, we began what was to become an educational process amid ambiguity and confusion. The process turned out, with individual variation, to consist generally of the following phases:*

Mental/Emotional State			*Task*
Confusion *Excitement* *Let's-wait-and-see, maybe-the-answers-will-come*	Personal Information - Gathering and Processing	Factual and Subjective Information - Gathering and Processing	*Definition of area* *What does this area include?* *What can I read and whom can I speak with to find out?* *How can I find these resources in the first place?* *How do I select the jobs to be covered? What criteria should I use?* *For whom am I writing and how does that influence the kind of information I include as well as the style of writing I use?*
Confusion *Excitement* *Let's-wait-and-see, maybe-the-answers-will-come* *Frustration*			*Operational definition of tasks* *What specific information do I need?* *What sources should I go to?* *How should I organize my time?* *How many people should I speak with?* *What approach should I use?* *What format should I follow?*
Confusion *Excitement* *Frustration* *Anger* *Assertiveness* *Exhiliration*			*Execution, evaluation, revision of working plan*
Confusion *Depression* *Boredom*			*Writing*
Sense of perspective *Mellowing* *Pride* *Self-worth* *Reflection*			*Editing and re-writing*

It is difficult to separate academic, practical, and personal skills. The most valuable aspect of this project lay in discovering and using our multi-faceted selves in gaining access to people -- politicians, businessmen, educators, administrators, getting information, forming impressions, evaluating information sources, organizing feelings and thoughts into coherent and cogent writing, and finding that our little-used but innate abilities make it on our own, to swim instead of sink still exist. Our society has few rites of passage remaining. The educational process has become prolonged and adolescence can stretch until the age of 30.

> *Opportunity for self-confirmation, for the feeling of a task mastered and done well, for the sense of success in interpersonal communication is not often found. The essence of the educational process, as one member of the project staff puts it, lies in the words "personal-organismic-growth." The test of the process is whether the person can then function more effectively, competently, and intelligently in real life situations.*
>
> *We face that test with renewed courage and exhilaration.*

Recommendations

On the basis of this ORMH demonstration, the Occupational Information and Guidance Services Center may wish to consider reconstituting its organization to fit the model of service, training, research and dissemination described herein. Without this modification of the Center, the ORMH will be used as frequently as its other publications and shelved to collect dust as is the fate of many manuals.

Three modifications, however, will be required. First, the model needs to be elaborated to multiply the scope and depth of each of the four principal functions. Second, the students and faculty supervisors must be increased and arranged in a pyramidal, three-tiered order so that those with lesser competencies and skills can learn to the ability levels of their teachers. Third, a self-correcting unit should be added to the operations of the Occupational Center through the innovations of the recommendations of outside program auditors or through the improvements indicated by rigorous self-appraisal.

This revision of the Center might proceed by seeking Federal support through a new grant application. A planning and organizational phase should be adopted once the money is secured. This phase is to be spent in close communication with the potential consumers of the Center's services in order to define community needs (needs assessment). Once needs are identified, the elements for the delivery capability are to be assembled, the specification for research priorities defined and the training components mounted.

Hawaii, with its highly centralized government, its remarkable network of formal and informal communication and its short travel distances, is in an enviable position among the States of the Union to "make things work," efficiently and effectively. Fragmentation, patchwork programming, jurisdictional disputes can only impair our ability to serve those in need, above all, our children. They should expect nothing less than the best we can produce.

Walter Nunokawa, Ph.D.
Department of Educational Psychology
May 31, 1972

HOW TO USE THIS MANUAL

The rest of this Manual is made up of eight parts: 1) general information on getting a job; 2) Hawaii State Employment Service; 3) programs for the disadvantaged; 4) training program opportunities; 5) scanning the futures; 6) acknowledgements; 7) references; 8) job summaries. It is strongly recommended that the user of this Manual relate the job summaries especially to the sections on getting a job and scanning the futures. Rapid technological changes are constantly making some jobs obsolete and creating new ones. Specific job information may become rapidly outdated.

Jobs included in this Manual are unified through fifteen different occupational clusters provided by the United States Office of Education. Clusters are generally organized according to similarity in one or more occupational aspects. This Manual, it needs to be emphasized, focuses mainly on jobs obtainable with up to two years of training, or what is sometimes called post-high school education. Hence, most of the jobs listed in this Manual require less than a high school education, technical, business school, or community college education, or specialized training. However, a small effort was made to sample jobs in some areas that require a baccalaureate degree or advanced graduate study. The Manual by no means is a comprehensive compilation describing the full range of jobs available in Hawaii. Only a computerized occupational information system with self-correcting and updating provisions can meet the challenge of the staggering fund of occupational information and the exponential rate of new information production.

A sub-index is provided at the beginning of each occupational area, listing the specific jobs covered. If the reader is unsure of what area a job falls into, or whether the Manual covers a given job, he should refer to the index at the end of the Manual. Job titles are arranged alphabetically and references to specific occupational areas are provided.

Each occupational area opens with a description of the field and a discussion of both national and local outlook in terms of employment opportunities and a description of training and educational programs available locally. The reader is urged to supplement the specific information given in a job summary with the broader discussion of what is available and will probably happen in the field as a whole.

It is hoped that this Manual will foster greater awareness of the diversity of job opportunities available in Hawaii and help more persons attain greater career and educational mobility.

HOW TO GET A JOB

GO FOR HELP

If you want a job but are completely confused about How to get one or Where to get one...

If you think you can get a job and do the work but you aren't officially qualified...

If you are having trouble getting a job because of skin color, economic background, or some other nonsense...

Find someone who knows what is happening and GO FOR HELP!

Maybe a parent, relative or neighbor; perhaps a friend or one of your instructors will be able to help you get started. Counselors in schools and employment offices are good bets.

In Model Cities areas go to the Human Resources Center.

HOW TO GET A JOB

The first step is to stop thinking of "getting a job" or entering a career as a single final choice. People with this attitude are worrying too much about finding their niche, their job puka. It is silly and unrealistic to think of jobs in this way. Most people do a little of this and a little of that, in a sense, making choices as they go along. It is best to have a relaxed and exploratory attitude. Benefits can be had from inspecting many different occupations. Sooner or later nearly everyone feels the urge to "settle down" and do something really solid, but that is a process which is hard to rush. Why not do many things, and find out what you really want? The more things you can do, the better you can survive in this changing world.

EMOTIONAL ADJUSTMENTS

A major problem students have (some, not all) after they graduate is learning to "take care of themselves." Schools do not emphasize the kind of independence and creativity that making your own way in our culture requires. Fortunately, most persons gain enough common sense to make it in life, but many thrust suddenly into the "big world" cheat themselves by merely finding some secure hole to hide in. Persons with a greater ability to participate in the "give and take" of the business world, which is often rough, will always have a greater ability to advance to positions of greater power and responsibility. Although the hope of a calmer, more cooperative society is expressed constantly, the reality remains sharply competitive.

LOOKING OUT FROM HIGH SCHOOL

From high school the choices look something like this: going on to college, joining a training program in a union or school or company, getting an entry level job, joining the army or getting married (depending on your sex) or doing nothing. Occasionally, but not very often, a high school grad can find something he really wants to do right away.

A person looking for quick advancement would do well to consider training programs in the big companies. Lots of big companies like to train their own personnel and are looking mainly for agreeable, alert people with a knowledge of the basic reading, writing, and arithmetic skills. In big companies it's possible to move quickly into the middle-income range in the same time that a college-bound student takes to prepare for what is usually a lower paying job. However, college students earn more in the long run. But that may be due to their "smarts" and not their college education. Smaller companies rely on community colleges and high school training programs and do not provide much training on their own, except informally. Whatever the training program always find out beforehand if you're going to be hired after graduation. Too many have learned the hard way that after two years of training there was no job for them. Auwe!

FINDING JOBS

People find jobs in several ways. The "trial and error method" involves reading the want ads or going door to door asking for work. A lot of teenagers and newcomers to town get jobs this way. There are many good jobs to be found. But, like in finding a house to rent, the result is usually a selection of "the one I can put up with." When you search around for a job the problems are simple; you have to demonstrate that you can do the work and you have to make the man like you and think of you as a friend so that he will want to hire you more than somebody else. Particularly in a small business things like how cheerful you are really count.

Labor unions and schools that advertise that they will are usually pretty good about placing members in jobs. Union men have a big advantage in certain fields, and it is common to hear something like "I went to the Union Hall and found a job on the bulletin board" or "the Union found me a job." This is a really good way to provide yourself with a degree of job security, if there is a union for the job you want to do. Ask an industrial arts teacher or counselor about unions in the field of your choice, or call up the union yourself to find out what is going on.

The Hawaii State Employment Service is a good organization and can be very helpful. They are better, by and large, than the private agencies because they get more job listings and don't charge fees for placements. When dealing with private agencies remember they make their living from placing people on jobs and some may want a kickback from your paycheck.

CONNECTIONS

The juiciest jobs are found through 'connections.' That is, you happen to know someone who knows of a good opening coming up and he puts in a good word for you. Or you know an employer and he actually gives you a job.

People with relatives or neighbors or friends who own businesses have automatic 'connections'. An employer will be biased in favor of the recommendation of a respected employee, or in favor of somebody he knows as a friend. It is true that "equality of opportunity" does exist, but in carefully specified ways. Minority groups and political "outs" are not as likely to penetrate the command level of government or business because they lack these "connections." This is a fact of life that produces what we call the "spoils" system which the federal, state and city (county) civil service system is supposed to correct. The name of the game in hunting for jobs, particularly jobs intended to be long lasting and a major part of your life, is "getting connections." A person who is agreeable to most any circumstance and isn't too concerned about how he occupies himself won't need to become involved in this. A polite term for "getting connections" is "making friends." Governments distribute contracts to their "friends." Businessmen see to the advancement of bright young men. This does not imply that a scandal lurks behind every appointment or promotion, but those with a nose for power, and those with an appearance like those in power, will necessarily have an advantage.

How to make the economy more "open" to new blood is likely to become more and more important as the decade progresses. Our sense of fairness is on trial. It is sad that persons cannot rise to their most fulfilling level of work because of the circumstances of their birth. Not everybody has an equal shot at the "good life."

PERSONALITY

Ask yourself, if you were the boss what kind of person would you hire. Train yourself to be confident, straightforward, and aggressive. An employer usually wants someone who looks like a warm lively body, not a corpse. The employer wants someone who has the energy to tackle the job head-on and be enthusiastic, and who is not afraid to speak up, ask questions, and generally get involved and be a part of his business, not just some plug-in and plug-out robot. Getting and keeping a job is a kind of game, but it is important if you are hung up on little things like living and eating. Don't be scared of interviewers and employers. But it's a smart thing to practice up with your counselor, teacher or friend until you get pretty smooth in interviews.

WITH YOUR EYES OPEN

As you work, watch for people who know a lot about the job and the field you are in and who know a lot of important people. Get to know these persons because then you will learn more about how to do well in your own job and whom to contact about advancement. An employer who is your friend is one of the biggest assests you will ever have.

STRATEGY

One good strategy for getting a job is this: when you have to get something, get something and don't be too fussy about it. Be sure to get some job that you can put up with for a while and that will be convenient in terms of transportation and timing and salary, and keep looking. With eyes and ears open you will soon begin to hear about other opportunities; for this reason it's good to try to get a first job in the general area of your interest. It's silly to try to find out about new opportunities in electrical maintenance if you really want to be a scuba diver.

In general, unless you are really in demand because of a rare skill, like topless dancing, or secure in your savings, it is a bad idea to leave one job without confirmed reservations in another. The possibility of finding a job is a lot different from having a firm offer with money waved in your face.

Sometimes getting another job after having left one is not so easy and you may run out of food if you cannot do it quickly.

ABOUT LOOKING AHEAD

It is also good to remember that adulthood is not some magical plateau where everything is suddenly achieved and you in one day solve all your problems. Adults are just older teenagers who have made the change to taking care of themselves. More choices and difficulties arise every day. For this reason it is important to continually seek to improve you skills and insights, and to continually seek to grow and use all your abilities in your life and work. Very few people use even half of all their abilities. Learning to expand your creative potential and learning to do many different kinds of things in many different ways is the most rewarding aspect of work, whether the work is mostly with your hands or with machines or with brains and by yourself or with many others. It is important to learn to spot the personal habits and job choices that lead to a dead-end. Too many are stuck in boring work but they gotta go every day to make their bread money. Better to make yours doing what you want to do. And if you can't find what you want don't be afraid to invent the job you prefer.

RAISES AND PROMOTIONS

If you want advancement in your job, treat the fellow you are asking for a raise or promotion like an equal. Sometimes, though, it doesn't hurt your chances if you make the boss feel like a boss and there are plenty who are successful because they know how to "brown nose." But try to stay in the middle. An employer doesn't want to talk to persons who either crawl in the door begging or barge in like a primo warrior into the saloon.

HOW COME YOU KEEP LIVING?

Most people try to get a job so that they can keep living and do something that they think is important. Of course a lot of people don't think anything is important, but they tend to be dead beats. It is very important to discover what it is that is important for you so that you can devote yourself to doing it wholeheartedly and not feel miserable and meaningless. What people tell you to do usually doesn't make sense. You have to find out for yourself.

COURAGE

Courage to try new things and to experiment is very good. One doesn't have too much control over the outside world, but one can be courageous in his personal life and make the best of every situation. In fact, every person is responsible for his own life, feelings, and dreams, and should not allow another's views and attitudes to rule the most basic parts of his life. Living courageously is fun. Being alienated and scared is not fun. And mumbling around all the time waiting for someone to tell you what's happening is not fun either.

LIKE A LEAF IN THE WIND

If you blow from one big cause and quest to the next, changing plans so often that you never apply yourself to anything and change directions so often you trip over your own feet you are probably not facing some basic issue. Achievement in anything worthwhile is the result both of inspiration and steady daily effort. Getting good at anything is the result of practice, whether it is math or auto mechanics. If you can understand the idea of practice and continual effort you can solve most of your own problems.

DOING WHAT YOU REALLY WANT

Many people seem to think that they should not do what they really want to. Like many among the older generation who didn't have the opportunities that are open to the younger generation. If you don't do what you really want, what will you do? Something you don't really want to? That's dumb, isn't it? So do what you want without hesitation. Of course don't do criminal things unless you don't mind prison life, but never feel that what you really want to do is wrong.

THE BAD BOSS

Every so often you find yourself in an unpleasant situation where your boss is simply awful. Remember that people can learn to cooperate with each other even if they don't like each other. When you have complaints, be straightforward and cut the dramatics. Nobody really likes to be mean.

FINANCIAL RECORDS

Figure out some way to keep track of how much you make, who you made it from, more or less where you spent it, and whom you donated money to. You will have to fill out an income tax form every spring and need to know what to put down. Be sure to save W-2 forms when your employer gives them out. Also, knowing where your money goes will help you to decide whether you are wasting your income or not wasting enough.

WELFARE

After working for a certain period of time you will be eligible for unemployment compensation if you are thrown out of work. Some persons qualify for regular welfare monetary aid regardless of employment. If you think you qualify, look into it. Food stamps are also an important form of aid, no shame attached.

HAWAII STATE EMPLOYMENT SERVICE

WHAT DOES THE HAWAII STATE EMPLOYMENT SERVICE OFFER?

The Employment Service helps applicants find a job for which they are qualified. It also refers applicants to special job training programs which may be available. Employment counselors are familiar with job vacancies and programs in the private, public, and private non-profit sectors, and can help place qualified applicants in any of these areas.

Placement is done through the services of a Job Bank. In existence in Honolulu since October, 1971, the Job Bank is a system of using a computer to bring people and jobs together. Early each morning new printouts of all job openings on Oahu are distributed to interviewers and counselors of the Hawaii State Employment Service as well as to Quick Kokua, the Concentrated Employment Program, and Human Services Centers in Kalihi-Palama and Waianae-Nanakuli.

At any given moment there are about 600 job orders in the local Job Bank system. The information is up to date and helps bring jobs and people together faster. However, the Job Bank does not guarantee the applicant a job to which he has been referred. Only the applicant can convince the employer to hire him.

The Honolulu Job Bank is the first step in computerized employment services. Plans are being made for expansion to statewide coverage. In fact, job banks are transforming the job hunting and placement process across the whole nation. Eventually job banks will be linked regionally and then nationally. Also in the future is a computer which can store information on applicants as well as job orders. On request it would compare both files and search out the best matches for any job opening.

IF ONE IS UNDECIDED ABOUT A VOCATION

Contact: Employment Opportunity Center, 2nd Floor
1347 Kapiolani Boulevard
Honolulu, Hawaii 96814
Telephone: 548-6546

Employment counseling is offered those who need help in preparing for jobs. Besides counseling, persons may be referred to training programs. Counselors will help assess general aptitude and provide other services.

IF ONE IS A HIGH SCHOOL DROPOUT AND WANTS A JOB

Contact: Employment Opportunity Center, 2nd Floor
1347 Kapiolani Boulevard
Honolulu, Hawaii 96814
Telephone: 548-6546

Counseling, training, education, and other supportive services (such as referrals for medical or legal aid) are offered to help a person obtain a job.

Pre-employment training consists of

1) basic education (approximately six months) to help qualify the applicant for a job and
2) employment orientation (two weeks before job placement)

Occupational skills training develops the specific skills the applicant is interested in acquiring. Each year new areas within certain occupational clusters are developed for skills training, depending on the needs of the local labor market. The broad occupational clusters within which specific on-the-job training is offered are:

1. Mechanical (approximately 38 weeks of training)
2. Clerical (approximately 30 weeks of training)
3. Food preparation (approximately 23 weeks of training)
4. Warehouse cashier-checker (approximately 14 weeks of training)

5. Individualized training to fit individual needs at places such as a community college

Pay

During training the applicant is eligible for a youth allowance plus a transportation allowance.

After Obtaining a Job

After being placed in a job the Employment Service offers help in job adjustment.

IF ONE HAS DECIDED ON A GENERAL KIND OF JOB

Contact: Honolulu Placement Branch
1040 South King Street, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 548-2211

This office offers employment services to those who know what kind of job they want. Counselors may give specific aptitude tests to help narrow the applicant's interest area. They give information on daily job listings and refer the applicant to those for which he is qualified.

IF ONE WANTS A PART-TIME OR SUMMER JOB

Contact: Employment Opportunity Center, 2nd Floor
1347 Kapiolani Boulevard
Honolulu, Hawaii 96814
Telephone: 548-6546

Under the President's Youth Opportunity Program (PYOP), young people below the age of 22 who need assistance to complete their schooling are given help in finding either a part-time job during the school year or a summer job. Eligibility criteria vary from year to year. Those interested in a summer job should register during April and May.

The following is a chart providing information on where to go for City and County, State, or Federal Civil Service jobs as well as for various State Employment Services.

There are some jobs that do not require a written examination. For those that do, the process consists of

1. filling out and mailing in an application form
2. taking a written examination on the announced date
3. waiting for the results to be mailed back
4. and if accepted and jobs are available, going for interviews.

The applicant would be well advised to stay in his present job or, if he is not working, find a short-term job while waiting for the test results. The application process for a Civil Service job may take a few months. Vacancies may not be immediately available but may come up later. Generally, applications will be kept active for one year.

To study for Federal Civil Service examinations, special books are available in the Hawaii State libraries as well as in book stores.

	STATE EMPLOYMENT SERVICE: COUNSELING, JOB TRAINING, PLACEMENT	EMPLOYMENT SERVICE: SPECIFIC GEOGRAPHIC AREAS	EMPLOYMENT SERVICE: SERVICES FOR SPECIFIC GROUPS
OAHU	Dept. of Labor and Industrial Relations Employment Opportunity Center, 2nd flr. 1347 Kapiolani Blvd. Honolulu, Hawaii 96814 Telephone: 548-6546	Kalihi-Palama Dept. of Labor and Industrial Relations 1105 Dillingham Blvd. Honolulu, Hawaii 96817 Telephone: 847-2071 Kalihi Human Services Center 1117 Kaili St. Honolulu, Hawaii 96819 Telephone: 847-4861 Waianae Dept. of Labor and Industrial Relations Waianae Coast Manpower Center 87-2070 Farrington Highway Nanakuli, Hawaii 96792 Telephone: 668-1531 Waianae Human Services Center 85-165 Old Plantation Road Waianae, Hawaii 96792 Telephone: 696-6335 Nanakuli Nanakuli Human Services Center c/o Nanaikapono Elem. School 89-195 Farrington Highway Nanakuli, Hawaii 96792 Telephone: 668-1564 Maili Maili Human Services Center 87-360 Kulaaupuni St. Waianae, Hawaii 96792 Telephone: 696-4295 Makaha Makaha Human Services Center 85-165 Old Plantation Road Waianae, Hawaii 96792 Telephone: 696-6391	Blind and Visually Handicapped Dept. of Social Services and Housing Div. of Vocational Rehabilitation Services for the Blind Branch (Ho'opono) 1901 Bachelot St. Honolulu, Hawaii 96817 Telephone: 548-6367 Disabilities Other than Blind and Visually Handicapped Dept. of Social Services and Housing Division of Vocational Rehabilitation Oahu Vocational Rehabilitation Branch 1390 Miller St. Honolulu, Hawaii 96813 Telephone: 548-4639 Students at Farrington High School Quick Kokua Farrington High School 1564 No. King St. Honolulu, Hawaii 96817 Telephone: 847-3944 (senior level) 847-3941 (sophomore & junion levels) Students at Waianae High School Quick Kokua Waianae High School 85-251 Farrington Highway Waianae, Hawaii 96792 Telephone: 696-4291

	CITY AND COUNTY CIVIL SERVICE	STATE CIVIL SERVICE	FEDERAL CIVIL SERVICE	STATE EMPLOYMENT SERVICE: BLUE AND WHITE COLLAR JOBS
OAHU	Dept. of Civil Service City Hall Annex Telephone: 546-7001	Dept. of Personnel Services Recruitment, Examination and Placement Division Room 402 825 Mililani St. Honolulu 96813 Telephone: 548-7590	Federal Job Information Center Room 104 Federal Building Honolulu 96813 Telephone: 546-8600	Department of Labor and Industrial Relations Honolulu Placement Branch 1040 S. King St. Honolulu 96814 Telephone: 548-2211
HAWAII	Dept. of Personnel Services Hawaii County Bldg. 215 Aupuni St. Hilo, Hawaii 96720	Dept. of Personnel Services Hawaii County Bldg. 215 Aupuni St. Hilo, Hawaii 96720	U.S. Post Office Hilo, Hawaii 96720	Hawaii State Employment Service Hilo Local Office 180 Kinoole St. Hilo, Hawaii 96720 Telephone: 935-5751 Kona Local Office Kealakekua, Hawaii 96750 Telephone: 323-3353
KAUAI	Dept. of Personnel Services Kauai County Bldg. Lihue, Hawaii 96766	Dept. of Personnel Services Kauai County Bldg. Lihue, Hawaii 96766	U.S. Post Office Lihue, Hawaii 96766	Hawaii State Employment Service Lihue Local Office 3016 Umi St., Room 204 Lihue, Hawaii 96766 Telephone: 245-4421
MAUI	Dept. of Personnel Services County of Maui 16 Market St. Wailuku, Hawaii 96793	Dept. of Personnel Services County of Maui 16 Market St. Wailuku, Hawaii 96793	U.S. Post Office Wailuku, Hawaii 96793	Hawaii State Employment Service Wailuku Local Office 2180 Main St. Wailuku, Hawaii 96793 Telephone: 244-4243

PROGRAMS FOR THE DISADVANTAGED

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PROGRAMS FOR THE DISADVANTAGED

Administered By

The University of Hawaii System

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Special Student Services, University of Hawaii, Kapiolani Community College, Leeward Community College, Honolulu Community College

Student Tutorial Service and Peer Counseling for Handicapped Students, Kauai Community College

Vocational Guidance & Supportive Services, Hawaii Community College

Vocational Instruction for the Disadvantaged, Maui Community College

Vocational Rehabilitation Program, Maui Community College

INTRODUCTION -PROGRAMS FOR THE DISADVANTAGED

The University of Hawaii system administers a variety of programs that are intended to improve the educational and vocational opportunities of disadvantaged youth in Hawaii. For our general purposes in this manual, "disadvantaged" may be said to comprise those individuals who are economically or academically disadvantaged or who are physically handicapped.

The wide range or programs is detailed in the following pages. Brief descriptions of what the programs are, what services they provide, and addresses of individuals or offices to contact for further information are included.

The programs are separated into three general categories: those which might be termed "community service" and which are available to students and non-students alike; those that are aimed specifically at high school students; and those that are intended to service community college or Manoa campus students. If will be noted that there is some overlap in the listings of the programs, but this is because several of the programs are designed to service more than one of the above-named populations.

COMMUNITY SERVICE PROGRAM

CONCENTRATED EMPLOYMENT PROGRAM (CEP)

What Is It?

This program is sub-contracted to the State Employment Service. The intent is to provide employment and substantial expansion of employment and work training opportunities.

Who Is Eligible?

The under-employed and unemployed residents of the Waianae-Nanakuli and Kalihi-Palama Model Neighborhood Areas. Pamphlets about the program are circulated in the Model Neighborhood Areas and at the Manpower Centers. The Employment Service does active recruiting of enrollees; however, in fact, most of those recruited are walk-ins.

What About Training?

* After acceptance the enrollee attends two weeks of employment orientation.
* The enrollee meets regularly with an employability development team (counselor, job developer, coaches, and a stenographer) to help him decide which occupation to train for and how to pursue his training.
* The team, with the enrollee, determines a plan which could include a combination of skill training and basic education, or work experience.

What About Pay and Benefits?

Enrollees are eligible for stipends and allowances.

Whom Do I Contact?

Hawaii State Employment Service
824 Punchbowl Street
Honolulu, Hawaii
Telephone: 548-2211

Concentrated Employment Program
of Honolulu
567 So. King Street
Honolulu, Hawaii
Telephone: 537-5946

COMMUNITY SERVICE PROGRAM

HEAD START SUPPLEMENTARY TRAINING PROGRAM, Honolulu Community College

What Is It?

This program is aimed at Head Start employees for the purpose of upgrading their existing skills in order to improve the Head Start program and to increase their skills in order that they may move up the Head Start Career Ladder.

Who Is Eligible?

Any full-time employee of a full-year (September - June) Head Start programs in the State of Hawaii. Each island has a Career Development Committee with the function of screening and selecting applicants for this program; however, to date there has been no need to refuse admission to any applicant due to lack of space. Any Head Start employee who wishes to enter the program may do so.

What Does The Program Involve?

- Students in this program are expected to be working toward a degree or credential.
- Students work in their regular Head Start Jobs.
- Students attend classes on their own time unless granted release by the delegate agency (i.e., Honolulu, Kauai, and Hawaii Community Action programs grant such time).

What About Pay and Benefits?

- The program pays the total cost of tuition and books for students not holding degrees; those with degrees pay half of their costs.
- Tutorial services are also paid for.
- Counseling is offered in connection with the staff or Special Student Services.

Whom Do I Contact?

Mrs. Marion P. Dunning
Head Start Supplementary Training Program
Honolulu Community College
874 Dillingham Blvd.
Honolulu, Hawaii
Telephone: 847-1815

COMMUNITY SERVICE PROGRAM

JOB EXPERIENCE EDUCATION PROGRAM, Honolulu Community College

What Is It?

The purpose of the program is to provide job skills and employment for Model Neighborhood Area (MNA) residents.

Who Is Eligible?

MNA residents who are:

- underemployed or unemployed
- 22 to 47 years of age

The Manpower Centers (State Employment Service) recruit both students and jobs for this program.

What About Training?

The trainees follow a 9 month program of work and study:

- three days a week are devoted to working at county, state, or private non-profit agencies
- study at the Honolulu Community College campus occupies the remaining two days per week
- course is specially tailored to provide the job skills required for the jobs the trainees are holding
- classes are limited to 20 students and all instruction is individualized
- trainees receive a Community College Certificate of Achievement upon completion of the program
- course credits are transferrable in the Associate of Science program

What About Pay and Benefits?

- salaries are at least $2.00 per hour

- * Concentrated Employment Program provides transportation and babysitting money
- * personal counseling is offered

Whom Do I Contact?

Hawaii State Employment Service
824 Punchbowl Street
Honolulu, Hawaii
Telephone: 548-2211

Concentrated Employment Program of
Honolulu
567 So. King Street
Honolulu, Hawaii
Telephone: 537-5946

COMMUNITY SERVICE PROGRAM

NATIONAL SUMMER YOUTH SPORTS PROGRAM, Manoa Campus

What Is It?

The program is aimed at those youngsters who under normal circumstances would not have an opportunity to enjoy a meaningful summer experience. Following are aspects of the program:

* a thorough medical examination of each child
* a daily hot meal
* enrichment programs on health, drugs, and job and career opportunities
* superior sports training and participation
* identification with academic life

Who Is Eligible?

Children 10 - 16 years of age.

How Does One Make an Application?

* applications are accepted by phone
* applications may be obtained by contacting:

    Moiliili Community Center
    Elementary Schools
    Community Action Program Workers

* program is publicized through radio, newspaper, TV and by flyers

Whom Do I Contact?

Dr. Steve Martin
U.H. College of Education
Makai Campua
Honolulu, Hawaii
Telephone: 944-8240

RESIDENT PLANNING INTERN PROGRAM--MODEL CITIES

What Is It?

This is a program developed to train indigenous planners to assist in the preparation of Model Cities proposals and to involve local people in planning for the Islands. The project was begun as part of Resident Research and Planning Centers, which established a training-education sequence for resident sub-professional interns and a professionally-staffed planning/research center in each Model Neighborhood Area.

Who Is Eligible?

Model Neighborhood Area residents

What About a Training Program?

An internship-education program was established which involves two phases. During the first 2 1/2 to 3 years approximately 60 hours of work-study credit is earned and the student receives an associate of arts degree from Leeward Community College. The second phase involves another 60 credit hours of work-study with the student working toward a bachelor's degree at the University of Hawaii. The interns combine classroom study with work experience in the research/planning centers.

What About Pay and Benefits?

The student receives a stipend while in the program.

Whom Do I Contact?

Dr. Fay Ala'ilima
Robert De Loach
Leeward Community College
96-050 Farrington Hwy
Honolulu, Hawaii
Telephone: 455-0011

Pacific Urban Studies and Planning Program
Maile Way 11
University of Hawaii
Honolulu, Hawaii
Telephone: 944-7381

HIGH SCHOOL PROGRAM

COLLEGE OPPORTUNITIES PROGRAM (COP), University of Hawaii, Manoa Campus

What Is It?

The purpose of the program is to make the college experience possible for students who otherwise might not be able to attend college. The program attempts to equalize the proportion of college graduates from disadvantaged areas with the proportion of college graduates in the general population. The aim is to prepare them to participate in the development of society and to secure for themselves and their families a meaningful and fruitful life.

Who Is Eligible?

The program is aimed at Model Cities young adults from multi-problem families who are inadmissible to the University of Hawaii due to low high school grades, no high school diploma, low SAT scores, no recommendations, etc.

How Does One Get Selected for the Program?

* Students are referred by other Model Cities agencies, school counselors, social workers, and Educational Guidance and Opportunities.
* Students may also apply personally.

How Does the Program Work?

* COP operates a 9-week summer session for its students prior to the freshman year.
* COP students are given intensive tutorial and remedial help until the conclusion of the sophomore year.
* Support is diminished gradually during the sophomore year, and the student is expected to adapt successfully at the end of two years.

- Financial aid packages are worked up for each student. University policy does not allow freshman to hold part-time jobs, so their packages usually contain some combination of tuition waivers, Educational Opportunity Grants, and loans.
- Sophomores are expected to sign up for University work/study.

Whom Do I Contact?

College Opportunities
1615 East-West Road
University of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8482

HIGH SCHOOL PROGRAM

EDUCATIONAL GUIDANCE AND OPPORTUNIITES (also known as TALENT SEARCH)

What Is It?

EGO is a program designed to open up educational and occupational alternatives for disadvantaged young people. The staff act as advocates for the young people by:

- assisting in vocational and educational planning
- providing information on post-secondary education, training programs, work opportunities, and financial aids for higher education
- encouraging out-of-school youth with ability to re-enter the appropriate educational programs
- developing a motivation for educational opportunities among disadvantaged youth and their families

Who Is Eligible?

The disadvantaged youth of Hawaii. Basically, the staff work with young people.

How Is Recruiting Done?

Students come in contact with Talent Search in three main ways:

- referral by another agency (e.g., Model Cities, schools)
- work-of-mouth referrals by other students
- active recruitment on the part of the EGO staff

What Does EGO Do?

The staff attempts to match the student with appropriate vocations or educational programs. They do so in the following ways:

- through personal and group counseling
- home visits
- slide show presentations
- contact with other agencies

* referral to private colleges, the University system, vocational or technical schools, and employment agencies
* assistance with applications for admission and for financial aid

Home visits are often conducted in order to involve the student's family in the decision-making process. Students and their families are assisted in obtaining information and services of other agencies.

Where is the EGO Office Located?

Educational Guidance and Opportunities
Room 203
931 University Avenue
Honolulu, Hawaii
Telephone: 946-8094

HIGH SCHOOL PROGRAM

HAWAII UPWARD BOUND

What Is It?

The purpose of Upward Bound is to assist and motivate high school students from low-income families to seek post-high school education.

Who Is Eligible?

This program is aimed at low-income high school students with college potential but who are lacking in motivation. Students are drawn from the following high schools:

Aiea
Farrington
Kaimuki
McKinley
Nanakuli
Waianae

How is Recruitment Handled?

- Criteria for selection include family income within the Office of Economic Opportunity (OEO) guidelines.
- Students are referred to HUB by school personnel and other service agencies.
- The final selection process involves a conference of HUB personnel and school staff members at each target school.
- At the conference applicants are ranked according to their need for the program and their ability to benefit from it.

What Does HUB Do for the Student?

The HUB program involves two phases:

1. A summer session for all participants. This is held at the University High School and offers the following:
   - academic work
   - remedial help
   - counseling in the areas of career planning, self-concept formation, and personal adjustment.
2. A year-round follow-through program on each participating high school campus. The program offers the following:
   - tutoring
   - group experiences
   - individual counseling
   - assistance in making application for college admission and financial aid
   - Students are referred to Special Student Services once they are accepted into the U.H. system.

What About Pay and Benefits?

A small stipend of $10 per week in the summer and $10 per month during the school year is offered as an incentive and as a reimbursement.

Where is HUB Headquartered?

Hawaii Upward Bound
Makai Campus
University of Hawaii
Honolulu, Hawaii
Telephone: 944-8290, 8046

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* At the time of publication, word was received that Hawaii Upward Bound has been merged with Special Student Services. Mrs. Annabell Fong will direct the system-wide Special Student Services-HUB.

COMMUNITY SERVICE PROGRAM

MODEL CITIES EDUCATIONAL CENTERS

What Are They?

Generally speaking, the Centers propose to enhance the educational and occupational opportunities of Model Neighborhood Area residents.

Who Is Eligible?

* Residents of Kalihi-Palama and Waianae-Nanakuli Model Neighborhood Areas
* First priority is given to the "educationally non-involved resident" of the MNA. In other words, priority is given to those persons who have not been educationally involved since leaving school.

What Services Are Available?

* classes
* an information center
* a learning laboratory

Classes are structured to conform to residents' interests and needs, and are located in facilities appropriate to the subject matter (i.e., a cooking class in a resident's home, an introduction to automobile mechanics in a local garage).

The information and guidance center centralized information relating to educational and vocational alternatives within the community. In the learning lab residents can ask for programmed material about their areas of interest. Once the program is set up the resident can learn at his convenience and at his own speed.

Where Are the Center Located?

Model Cities Education Center
87-700 Farrington Hwy.
Honolulu, Hawaii
Telephone: 668-1193, 668-1561

Model Cities Education Center
1242 North School Street
Honolulu, Hawaii
Telephone: 845-2908

HIGH SCHOOL PROGRAM

RESIDENT PLANNING INTERN PROGRAM--MODEL CITIES

What Is It?

This is a program developed to train indigenous planners to assist in the preparation of Model Cities proposals and to involve local people in planning for the Islands. The project was begun as part of Resident Research and Planning Centers, which established a training-education sequence for resident sub-professional interns and a professionally-staffed planning/research center in each Model Neighborhood Area.

Who Is Eligible?

Model Neighborhood Area residents

What About a Training Program?

An internship-education program was established which involves two phases. During the first 2 1/2 to 3 years approximately 60 hours of work-study credit is earned and the student receives an associate of arts degree from Leeward Community College. The second phase involves another 60 credit hours of work-study with the student working toward a bachelor's degree at the University of Hawaii. The interns combine classroom study with work experience in the research/planning centers.

What About Pay and Benefits?

The student receives a stipend while in the program.

Whom Do I Contact?

Dr. Fay Ala'ilima
Robert De Loach
Leeward Community College
96-050 Farrington Hwy.
Honolulu, Hawaii
Telephone: 455-0011

Pacific Urban Studies and Planning Program
Maile Way 11
University of Hawaii
Honolulu, Hawaii
Telephone: 944-7381

COLLEGE PROGRAM

ASSISTING POTENTIAL HIGH SCHOOL DROPOUT, Hawaii Community College

What Is It?

The purpose of this program is to assist students in overcoming their learning difficulties and their disenchantment with the high school environment.

Who Is Eligible?

This program is aimed at the potential high school dropout. Ages range from 16 - 18 years.

What Are Some Aspects of the Program?

- Students enroll in regular college courses on a part-time basis.
- Work/study is an aspect of the program.
- Counseling services are offered.

Whom Do I Contact?

S. Lynn Fukuda
Coordinator for Student Services
Hawaii Community College
Hilo, Hawaii

COLLEGE PROGRAM

AUTOBODY COOPERATIVE, Honolulu Community College

What Is It?

The purpose is to provide training in autobody mechanics and to place students in jobs upon completion of the program.

Who Is Eligible?

The economically or physically handicapped student at Honolulu Community College

How Does the Program Work?

* The Program is a two-year work/study arrangement.
* Training in a job setting is combined with related text material in the classroom.
* Students remain in the classroom for a semester before being placed in a job setting. From then on they go to school half days and work half days.
* Seminars are given in addition to classwork.
* Periodic checks are made at the work settings by the program supervisor.

What About Pay and Benefits?

* Students are paid for their work experience.
* Employment usually continues through the summer months.
* The student usually remains in the job setting as a full-time, permanent employee upon completion of the 2 year program.

Whom Do I Contact?

Autobody Cooperative
Honolulu Community College
874 Dillingham Blvd.
Honolulu, Hawaii
Telephone: 847-2161

COLLEGE PROGRAM

COLLEGE OPPORTUNITIES PROGRAM (COP), University of Hawaii, Manoa Campus

What Is It?

The purpose of the program is to make the college experience possible for students who otherwise might not be able to attend college in order to equalize the proportion of college graduates from disadvantaged areas with the proportion of college graduates in the general population in order to prepare them to participate in the development of society and to secure for themselves and their families a meaningful and fruitful life.

Who Is Eligible?

The program is aimed at Model Cities young adults from multi-problem families who are inadmissible to the University of Hawaii due to low high school grades, no high school diploma, low SAT scores, no recommendations, etc.

How Does One Get Selected for the Program?

* Students are referred by other Model Cities agencies, school counselors, social workers, and Educational Guidance and Opportunities.
* Students may also apply personally.

How Does the Program Work?

* COP operates a 9-week summer session for its students prior to the freshman year.
* COP students are given intensive tutorial and remedial help until the conclusion of the sophomore year.
* Support is diminished gradually during the sophomore year, and the student is expected to adapt successfully at the end of two years.

- * Financial aid packages are worked up for each student. University policy does not allow freshman to hold part-time jobs, so their packages usually contain some combination of tuition waivers, Educational Opportunity Grants, and loans.
- * Sophomores are expected to sign up for University work/study.

Whom Do I Contact?

College Opportunities
1615 East-West Road
University of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8482

COLLEGE PROGRAM

COOPERATION EDUCATION PROGRAM, Kauai Community College

What Is It?

The program's primary purpose is to help students develop salable competency in their occupational fields.

Who Is Eligible?

Disadvantaged students at Kauai Community College

What Does the Program Do?

* The program consists of about 15 hours per week of work in participating businesses, governmental agencies, or industry in the areas from Kapaa to Waimea.
* Related classroom instruction facilitates the development of the student's needs.
* The student's school schedule is set to meet requirements for graduation in all subjects directly related to his field.
* In many cases the part-time positions lead to full-time employment upon graduation.

How is Selection for the Program Handled?

The full-time cooperative education coordinator surveys the Business and Trade Technical Divisions for students who are ready for placement in industries.

Whom Do I Contact?

Program Coordinator
Cooperative Education Program
Kauai Community College
Lihue, Hawaii

COLLEGE PROGRAM

DEAN'S GUEST PROGRAM, University of Hawaii Manoa Campus

What Is It?

The purpose of the program is to provide an opportunity for residents of the Pacific area to attend and succeed in medical school.

Who Is Eligible?

* This program is aimed at students who ordinarily would not gain admission to medical school if judged by conventional admission standards.
* Ethnic groups which are under-represented in the medical profession are preferred.
* Students from Hawaii, the Pacific Trust Territories, American Samoa, Guam, and to a lesser extent students from the Pacific Basin and Mainland United States are eligible.

How Does One Get Selected for the Program?

* On the U.H. manoa campus there is a pre-med advisor who helps undergraduates consider the field of medicine.
* In the Pacific area established recruitment channels are followed: campus advisors, county medical agents, for example.

How Does the Program Work?

* Dean's Guest students take the regular School of Medicine course of study but in three years rather than two (it is not known yet just how the program will be affected now that the School of Medicine is becoming a four-year course of study).
* Regular tutorial sessions are established for all major courses.
* Professors offer informal, personal counseling.

What About Financial Aid?

* Financial assistance is not a part of the program:

  U.S. citizens and resident students may apply for aid through the U.H. Financial Aids Office.

Foreign students must be able to support themselves.

Eventually an effort will be made to encourage scholarships from the local community.

Whom Do I Contact?

Dean's Guest Program
School of Medicine
College of Health Sciences and Social Welfare
University of Hawaii
Honolulu, Hawaii
Telephone: 944-8287

COLLEGE PROGRAM

DEVELOPMENTAL READING PROGRAM, Leeward Community College

What Is It?

This program is intended for academically disadvantaged students and/or vocational technical students at Leeward Community College to improve their basic reading skills.

Who Is Eligible?

- academically disadvantaged students
- vocational technical students

Students are referred by any of the following means:

- Special Student Services
- The Division of Vocational Rehabilitation
- Leeward Community College instructors
- Self-referrals

What Services Are Offered?

The students work in individualized classes of 20 students with one instructor and two para-professionals. A minimum of a tenth grade reading proficiency is the goal. The para-professionals are taken from those students who have already finished the Developmental Reading Program.

Whom Do I Contact?

Mrs. Carrie Odom
Reading Clinic
Leeward Community College
96-050 Farrington Hwy.
Honolulu, Hawaii
Telephone: 455-0011

COLLEGE PROGRAM

DISADVANTAGED AND HANDICAPPED SUPPORT PROGRAM, Hawaii Community College

What Is It?

This program offers instruction in reading, writing, and study skills for disadvantaged vocational/technical students.

How Are Students Selected?

Students are selected on the basis of low scores on the Gates Reading Test and the SRA exam.

Whom Do I Contact?

S. Lynn Fukuda
Coordinator for Student Services
Hawaii Community College
Hilo, Hawaii

EXEMPLARY PROGRAM, Honolulu Community College

What Is It?

The purpose of this program is to raise reading and/or writing skills so that the student can achieve academically or vocationally.

Who Is Eligible?

Students are referred in the following manner:

* Self-referral
* By the counseling staff on the basis of low SAT scores upon admission to the college
* By faculty who sense the student may be encountering difficulty

Students are tested and if reading and/or writing levels are below tenth grade proficiency, they are accepted into either or both phases of the program.

What Does The Program Involve?

Students are placed in a class which is taken concurrently with other subjects. Classes include individualized as well as group instruction. The student receives English credits for the course when his reading proficiency reaches tenth grade level. However, he may remain in the class to further increase his competency.

Whom Do I contact?

Mrs. Gloria Hooper
Exemplary Program
Honolulu Community College
874 Dillingham Boulevard
Honolulu, Hawaii
Telephone: 847-2161

COLLEGE PROGRAM

KOKUA, University of Hawaii

What Is It?

KOKUA is designed to help disadvantaged and physically handicapped students achieve their educational goals by offering a variety of supportive services.

Who Is Eligible?

- physically handicapped students
- economically disadvantaged students

How Does KOKUA Work?

KOKUA renders various services, provides tutorial and physical aids, requests needed modification of the U.H. physical plant to provide access to classes, provides transcribing services for the blind, and helps with admission and registration routines. Tutors, readers, and aides and provided.

How Does One Take Advantage of These Services?

- Many students come to KOKUA as self-referrals.
- Others are referred through agencies or other programs:
  - Special Student Services
  - Counseling and Testing Center
  - Financial Aids
  - Division of Vocational Rehabilitation

Whom Do I Contact?

KOKUA
Bachman Annex 12
University of Hawaii
Honolulu, Hawaii
Telephone: 944-8011, 944-8012

COLLEGE PROGRAM

REMEDIATION PROGRAM FOR THE ACADEMICALLY AND ECONOMICALLY DISADVANTAGED STUDENTS, Kauai Community College

What Is It?

This program aims at helping the student develop basic study skills and overcome learning problems in order that he may experience success in the college setting.

Who Is Eligible?

Kauai Community College students who are academically and/or economically disadvantaged.

SCAT scores are used as the determining factors in identifying students needing the program.

How Are Students Referred?

- High school counselors are the major referring agents.
- College counselors and instructors are encouraged to refer students who seem in need of individualized instructions.

How Does the Program Work?

- On the basis of low SCAT scores, students identified as needing remedial work will be assigned to the Remedial Learning Center after they have selected their special areas of concentration.
- Students are scheduled to report to the Center three hours per day.
- At the end of every six weeks, students are evaluated for possible re-entry into the regular classes.

Whom Do I Contact?

Remedial Learning Center
Kauai Community College
Lihua, Hawaii

COLLEGE PROGRAM

RESIDENT PLANNING INTERN PROGRAM--MODEL CITIES

What Is It?

This is a program developed to train indigenous planners to assist in the preparation of Model Cities proposals and to involve local people in planning for the Islands. The project was begun as part of Resident Research and Planning Centers, which established a training-education sequence for resident sub-professional interns and a professionally-staffed planning/research center in each Model Neighborhood Area.

Who Is Eligible?

Model Neighborhood Area residents

What About a Training Program?

An internship-education program was established which involves two phases. During the first 2 1/2 to 3 years approximately 60 hours of work-study credit is earned and the student receives an associate of arts degree from Leeward Community College. The second phase involves another 60 credit hours of work-study with the student working toward a bachelor's degree at the University of Hawaii. The interns combine classroom study with work experience in the research/planning centers.

What About Pay and Benefits?

The student receives a stipend while in the program.

Whom Do I Contact?

Dr. Fay Ala'ilima
Robert De Loach
Leeward Community College
96-050 Farrington Hwy.
Honolulu, Hawaii
Telephone: 455-0011

Pacific Urban Studies and Planning Program
Maile Way 11
University of Hawaii
Honolulu, Hawaii
Telephone: 944-7381

COLLEGE PROGRAM

SPECIAL STUDENT SERVICES, University of Hawaii, Manoa Campus
Kapiolani Community College
Leeward Community College
Honolulu Community College

What Is It?

The function of the project is basically a counseling program of individual and group work where staff help the student synthesize what is happening to him in higher education, both academically and socially.

Who Is Eligible?

Low-income disadvantaged students on any of the four participating campuses.

How Does the Program Work?

Special Student Services offers a variety of supportive services to aid the student in his adjustment to campus life, both academically and socially. Emphasis is placed on the establishment of peer supportive groups. The staff acts as advocates for the students and are resource people to help the student seek out other supportive services from other college departments or community agencies as may be required.

Whom Do I Contact?

David Robb
Special Student Services
University of Hawaii
Manoa Campus
Honolulu, Hawaii
Telephone: 944-8402

Edward Miyamoto
Special Student Services
Honolulu Community College
874 Dillingham Blvd.
Honolulu, Hawaii
Telephone: 847-2161

Isao Matsumura
Special Student Services
Kapiolani Community College
620 Pensacola St.
Honolulu, Hawaii
Telephone: 531-4654

Ernie Libarios
Special Student Services
Leeward Community College
96-050 Farrington Hwy.
Honolulu, Hawaii
Telephone: 455-0011

COLLEGE PROGRAM

STUDENT TUTORIAL SERVICE AND PEER COUNSELING FOR HANDICAPPED STUDENTS, Kauai Community College

What Is It?

The program is designed to offer support services to handicapped students who without such assistance would experience difficulty adjusting to a regular classroom situation.

Who Is Eligible?

Handicapped students at Kauai Community College

What Does the Program Do?

The program revolves around a personal companion that the handicapped student himself has selected.

Most handicapped students in need of assistance are identified by the State Divison of Vocational Rehabilitation prior to their enrollment in the college.

Tutorial and peer counseling are offered to the student.

Whom Do I Contact?

Kauai Community College
Lihue, Hawaii

COLLEGE PROGRAM

VOCATIONAL GUIDANCE & SUPPORTIVE SERVICES, Hawaii Community College

What Is It?

This is an intensive program of tutoring, skill training, and vocational guidance.

Who Is Eligible?

Handicapped students at Hawaii Community College are eligible. These students are identified by the Division of Vocational Rehabilitation and Services to the Blind.

Whom Do I Contact?

S. Lynn Fukuda
Coordinatory for Student Services
Hawaii Community College
Hilo, Hawaii

COLLEGE PROGRAM

VOCATIONAL INSTRUCTION FOR THE DISADVANTAGED, Maui Community College

What Is It?

The emphasis is on offering supportive services for the disadvantaged. Emphasis is placed on the correction of deficiencies in reading, writing, and mathematics.

Who Is Eligible?

Disadvantaged students at Maui Community College

How Does the Program Work?

- Tutorial assistance is provided.
- A Learning Skills Center is established on campus.
- An independent study lab manned by para-professionals is available.
- Special math and English courses, operated as mini-courses, are in operation for the students.

Whom Do I Contact?

Dr. Harold Luntey
Dean of Instruction
Maui Community College
Kahului, Hawaii

VOCATIONAL REHABILITATION PROGRAM, Maui Community College

What Is It?

The intent is to help handicapped students succeed in vocational programs. The purpose is to provide counseling, psychological and tutorial services to maximize the student's possibilities of success.

Who Is Eligible?

Handicapped students at Maui Community College

How Does the Program Work?

* The special education instructor works with the instructional staff to diagnose academic difficulties.
* Tutorial periods are assigned during which the student is assisted by his personally selected peer tutor.
* The peer tutor works with the same handicapped student throughout the school year.
* Readers for the blind are also offered.

Whom Do I Contact?

Vocational Rehabilitation Program
Maui Community College
Kahului, Hawaii

TRAINING PROGRAM OPPORTUNITIES

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TRAINING PROGRAM OPPORTUNITIES

I. Apprenticeship

II. Concentrated Employment Program (CEP)

III. Job Corps

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V. Manpower Development and Training (MDT)

VI. Neighborhood Youth Corps (NYC)

VII. Public Employment Program (PEP)

VIII. Work Incentive Program (WIN)

TRAINING PROGRAM OPPORTUNITIES

After High School, What?

Upon leaving high school, the student has several alternatives available in deciding what to do next. Some of these are:

1. Travel
2. Personal exploration through various means not involving a job or continuing in school
3. University education
4. Community college education--either a transfer liberal arts program or a specific training program for an occupation
5. Private technical, trade, or business school
6. Military service
7. Full-time or part-time employment--sources of information
    a. Civil Service: Federal, State, or City and County
    b. Department of Labor and Industrial Relations, State Employment Service
    c. Private employment agencies
    d. Classified ads
    e. Big business firms in the community which train their employees through their own programs, such as Hawaiian Telephone Co. and Hawaiian Electric Co.
    f. Direct contact with firm in which one wants to work
8. Various federal, state, or city and county funded training programs

The following is a partial listing of various training program opportunities funded by the federal, state, or city and county governments.

APPRENTICESHIP

What is it?

1. A system for training craftsmen
2. A system of learning on the job and getting paid for it
3. A way of combining training with related classroom instruction
4. An orderly way of being introduced to a job, adjusting to work learning and earning, and advancing

What is an apprentice?

A worker who is covered by a written agreement and learns to become a skilled craftsman through planned, supervised work on the job plus related classroom instruction. He works with and learns from a skilled craftsman. He is supervised by skilled craftsmen known as journeymen or masters.

In some trades, particularly those connected with building and construction, serving an apprenticeship is the only way to become a journeyman. In other trades there may be several ways of reaching that goal. For example, a few employers have established apprenticeship programs to train auto mechanics or radio-TV repairmen but most of the on-the-job training for these trades is done on an informal "helper" basis. Whether done formally or informally, many employers prefer to select a person for training who has had some background either from technical school courses or practical experience in the trade he wishes to learn.

Who is eligible? Whom do I contact?

Requirements vary. If interested, contact:

1. For all apprenticeship programs in the private sector:

   a. State Dept. of Labor and Industrial Relations
   Apprenticeship Division, Room 305
   825 Mililani Street
   Honolulu, Hawaii 96813
   Telephone: 548-7631 or 548-7632

b. Register for employment with:

Hawaii State Employment Service
Honolulu Placement Branch
1040 South King Street, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 546-8600

2. For the Pearl Harbor Naval Shipyard Apprentice Program:

Federal Job Information Center
Federal Building, Room 104
Honolulu, Hawaii 96813
Telephone: 546-5967

What are some apprenticeable occupations?

Asbestos worker
Auto body repairman
Auto mechanic
Appliance repairman
Baker
Cement finisher
Construction equipment mechanic
Compositor
Cook
Dental technician
Draftsman
Electrician
Equipment Operator
Floor layer
Furniture refinisher
Glazier
Graphic arts
Instrument (fabricator)
Ironworker
Lather
Lineman
Machinist
Meat cutter
Meter repairman
Boilermaker
Bricklayer-mason
Business machines repairman
Cabinet maker
Carpenter
Millwright
Musical instrument repairman
Moulder
Operating engineers
Optical technician
Painter
Patternmaker
Photoengraver
Plant mechanic
Plasterer
Plumber
Radio-TV repairman
Refrigeration pipefitter
Roofer
Sheetmetal worker
Stonemason
Tile setter
Upholsterer
Wood carver

Pearl Harbor Naval Shipyard Apprentice Program:

Blacksmith
Boatbuilder
Boilermaker
Electrician
Electronics mechanic
Joiner
Machinist
Machinist marine
Molder
Painter
Pipe coverer and insulator
Pipefitter
Refrigeration and air conditioning mechanic
Rigger
Sailmaker
Sheetmetal worker
Shipfitter
Shipwright
Toolmaker
Welder

The Apprenticeship Division is the Department of Labor and Industrial Relations' on-the-job training agency. It encourages and assists private industry in developing and maintaining effective apprenticeship programs. It also implements short-term job training programs in non-apprenticeable occupations, frequently utilized for industry participation in federal training programs, such as one which qualifies eligible veterans to be paid while in training.

For purposes of applying for apprenticeship, programs may be grouped in two general types. One is a trade committee type program under which several employers participate. The committee, usually composed equally of employer and union representatives, is responsible for the selection of apprentices and other administrative functions. Applications for this type of program should be made at the office of the committee.

The other group of programs may be identified as "single plant" programs. While some of these programs may provide for union participation, the training is the responsibility of a single employer and applications for apprenticeship should be made directly to the firm.

Some of the trades for which apprenticeship programs have been established in Hawaii are listed, including the period of training required. Addresses for application to some of the committee programs are also shown. Should these addresses change or should more application information be desired, the Apprenticeship Division of the Department of Labor and Industrial Relations, at 825 Mililani Street, may be contacted.

Trade	Training Period (In Years)
Asbestos Worker	4
Auto Body Repairman	4
Auto Mechanic	4
Appliance Repairman	3
Boilermaker	3
Bricklayer-Mason	3
Business Machines Repairman	3
Carpenter (Construction)	4
Cement Finisher	3
Construction Equip. Mech.	3
Compositor	4
Cook	3
Dental Technician	4
Draftsman	3
Electrician (Auto Equip.)	4
Electrician (Motor Repair)	4
Electrician (Wireman)	4
Floor Layer	3
Furniture Refinisher	2-3
Glazier (Construction)	4
Instrument Technician	4
Ironworker (Fabricator)	3

Trade	Training Period (In Years)
Ironworker (Reinforcing)	2 1/2
Ironworker (Structural)	3
Lather	3
Lineman (Utilities)	3
Machinist	4
Meat Cutter	2
Millman (Woodworking)	4
Molder	4
Optical Technician	4
Painter (Automobile)	3
Painter (Construction)	3
Patternmaker	4
Photoengraver	5
Plant Mechanic (Maintenance)	4
Plasterer	4
Plumber	5
Pressman	4
Radio-TV Repairman	4
Roofer	2
Sheet Metal Worker	5
Stone Mason	3
Tile Setter (Ceramic)	3
Upholsterer	3

Apprenticeship Committee	Office Address
Asbestos Worker	707 Alakea St., Room 208, Hon. 96813
Boilermaker	2024 N. King St., Room 203, Hon. 96819
Bricklayer & Stone Mason	2305 S. Beretania St., Room 204, Hon. 96814
Carpenter	Carpenters' Training Office 904 Kohou St., Room 305, Hon. 96817
Cement Finisher	2305 S. Beretania St., Room 204, Hon. 96814
Cook	1956 Ala Moana Blvd., Hon. 96815
Electrician (Wireman)	1316 Kaumualii St., Hon. 96817
Electrician (Motor Repair)	1316 Kaumualii St., Hon. 96817
Floor Layer	949 McCully St., Hon. 96814
Glazier	1001 Dillingham Blvd., Room 319, Hon. 96817
Ironworker (Fabricator)	308 Empire Bldg., 49 S. Hotel St., Hon. 96813
Ironworker (Reinforcing)	310 Empire Bldg., 49 S. Hotel St., Hon. 96813
Ironworker (Structural)	310 Empire Bldg., 49 S. Hotel St., Hon. 96813
Millman (Woodworking)	Hawaii Millwork Training Office 904 Kohou St., Room 305, Hon. 96817
Operating Engineers	2305 S. Beretania St., Room 207, Hon. 96814
Painter	2305 S. Beretania St., Room 201, Hon. 96814
Plasterer	2305 S. Beretania St., Room 204, Hon. 96814
Plumber	2959 Koapaka St., Hon. 96819
Refrigeration (Pipefitter)	2959 Koapaka St., Hon. 96819
Roofer	2024 N. King St., Room 204, Hon. 96819
Sheet Metal Worker	666 Kohou St., Room 204, Hon. 96817

CONCENTRATED EMPLOYMENT PROGRAM - Work Experience II (CEP-WE II)

What Is It?

* program to help a person qualify for and get a steady job

* program which sets up training programs with private (non-profit) agencies, which provide on-the-job training

Who Is Eligible?

* residents of Kalihi-Palama or Waianae Coast areas

* those who receive any cash welfare payments or who meet income criteria as set forth by U.S. Department of Labor

* those who are unemployed or under-employed

What Kinds of Training are Available?

Clerk-typist
Bookkeeper
Receptionist
Social worker aide
Assistant to an architect
Telephone Operator
Teletypist operator
and others

* during training, an allowance of $1.60 an hour for the first three months

* $1.80 an hour after completion of three months and satisfactory performance

* allowance based on 40-hour week

What Are Some Benefits?

Supportive services: medical check-up
job counseling
education

Whom Do I Contact?

Kalihi-Palama Intake Center
1105 Dillingham Boulevard
Honolulu, Hawaii 96817
Telephone: 847-2071

Waianae Coast Intake Center
87-2070 Farrington Highway
Waianae, Hawaii 96792
Telephone: 668-1513

JOB CORPS

What Is It?

Hawaii Job Corps is a residential program which offers training for good, steady employment, basic education, and other skills. Each trainee is expected to live and work in the Job Corps until his training is finished. This may take from six months to two years, the average being nine months, depending on the trade and the trainee's abilities. Each corpsman helps develop his own personal training plan.

Who Is Eligible?

Young men between 16 and 22 who need further training and education to get a good job are eligible. Eligible young women are presently referred to mainland centers. The Hawaii Job Corps serves men from Hawaii, Guam, and the Trust Territories of the Pacific Islands.

What Are Some Training Program Areas?

* Basic education. Job Corps offers a chance to continue one's education, prepare fro the world of work, and obtain a high school equivalency diploma (GED). The education program may include:

    Reading
    World of Work
    Writing
    Math
    Language and study skills
    GED preparation

* Some corpsmen who complete the basic education program are helped to continue their schooling at the University of Hawaii or other local colleges.

    * Carpentry
    * Cooking
    * House painting
    * Welding
    * Automotive
    * Masonry

In cooking, carpentry and painting, training is given by regular union members with much experience. Graduates become union members upon program completion.

What Are Some Benefits?

- Meals, clothing, housing and transportation, plus $14.28 spending money every two weeks
- Well-rounded recreation program
- Medical and dental care during enrollment
- Placement in job, further schooling or military service upon program completion
- Uniforms and personal clothing
- Upon leaving Job Corps after satisfactory training period, young men receive some money to help get started in the community
- Upon successful completion of education program, high school diploma accredited by the Department of Education

Whom Do I Contact?

On Oahu:

Koko Head Center
Box 7638
Honolulu, Hawaii 96825
Telephone: 395-2361

On Kauai:

Kokee Center
P.O. Box 548
Waimea, Kauai, Hawaii 96752
Telephone: 338-9114

On Hawaii:

Kilauea Center
Box 11
Hawaii National Park 96818
Telephone: 678-493

JOB OPPORTUNITIES IN THE BUSINESS SECTOR--NATIONAL ALLIANCE OF BUSINESSMEN

What Is It?

- a program developed by business leaders and Government officials and endorsed by organized labor to combine resources to hire and train disadvantaged persons in productive jobs
- cooperating employers provide jobs and training
- Federal Government, through contracts awarded by Manpower Administration of the U.S. Department of Labor, pays the extra costs of providing the services and training

Who Is Eligible?

Persons certified as disadvantaged according to Employment Service criteria for Hawaii, which include being a high school dropout, under 22 or over 45, and handicapped or having special obstacles to employment.

What Kinds of Jobs and Training Are Available?

At present (March, 1972) job contracts are available in the following areas:

- Hotel occupations
  - housekeeping
  - food service
  - food preparation
  - accounting
  - front office
  - landscaping and maintenance
- truck driver helper
  - truck driver
  - packer trainee

What About Pay?

Enrollees are paid regular job wages (where applicable, regular union wages).

Benefits?

There are regular benefits to which the job entitles the employee.

Whom Do I Contact?

Employment Opportunity Center
1347 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 548-6546

MANPOWER DEVELOPMENT AND TRAINING

What Is It?

* program which conducts various job training projects to train the unemployed

* jointly administered by:

The Manpower Training Office
University of Hawaii Community Colleges

Hawaii State Employment Service
Department of Labor and Industrial Relations

* cooperating agencies

Honolulu Community Action Program

Department of Social Services and Housing

Department of Personnel

Department of Education

City and County of Honolulu

County of Hawaii

National Alliance of Businessmen

United States Army and Air Force

* funding sources

Concentrated Employment Program

Work Incentive Program

Economic Development Administration

Public Service Careers

Neighborhood Youth Corps

Project Transition

State funds

Manpower Development and Training Act

(passed in 1962 against background of high unemployment, growing labor force, impact of technological change)

Who Is Eligible?

- specific target groups: unemployed
  poor
  disadvantaged
- wide latitude in MDTA projects
  - youth and adults who are unemployed or underemployed
  - those whose skills are becoming obsolete because of technological changes
  - members of minority groups with cultural, emotional, social, or other handicaps
  - residents of rural areas, whose poor education or economic situation accounts for lack of opportunities to develop job skills

What Are Some Training Program Areas?

- basic education
- institutional training in form of classroom instruction
- pre-apprenticeship training
- on-the-job training
- clerical cluster
- mechanical cluster
- food preparation cluster
- program is flexible to adjust to local manpower needs

More Information About the Program

- most projects operate under occupational cluster concept, with open/exit features

* trainee may enroll on any Monday throughout the year and graduate as soon as he completes training objectives

* trainee gets intensive supportive services during trainig

What About Pay?

A regular allowance, depending on income criteria of trainee

Whom Do I Contact?

The Employment Opportunity Center
1347 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 548-6546

NEIGHBORHOOD YOUTH CORPS

What Is It?

There are three basic types of NYC programs:

1. In-School NYC: provides part-time work experience for youth from low income families who are in the ninth through twelfth grades.
2. Out-of-School NYC: provides low income, underemployed or unemployed youth, ages 16 and over, who are not in school and are not planning to return, with work experience and educational assistance.
3. Summer NYC: provides low income unemployed youths 16 and older with summer jobs. Limited number of 14 and 15 year olds can be enrolled.

Who Is Eligible?

A young person may be selected for an out-of-school project if he or she is:

1. 16 years or older
2. In need of useful work and training to help him obtain a job in line with his potential
3. Unemployed, underemployed or low income
4. Out of school before graduating and not planning to return
5. Permanent U.S. resident

Notes:

- * Members of families receiving welfare payments are normally considered eligible for enrollment
- * Limited number of high school graduates may be enrolled if the person will benefit by enrollment because of a personal need
- * Enrollees may remain in the program for two years.

How Do I Enroll?

Contact:

The Employment Opportunity Center
1347 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 548-6546

What Are Job Possibilities Like?

The enrollee is placed in a work station that is suited to his interest and ability. He may work as a clerical aide, recreation aide, trade aide, head start aide, etc. Whenever possible, he will have an assignment which has realistic future employment possibilities.

What About Pay?

The enrollee is paid the wage-rate of $1.60 per hour. The maximum number of hours he can work per week is 32. Hours spent in remedial education classes and counseling are considered work hours. If the enrollee wants to work all 32 hours, he may attend night school with the Adult Education branch of the Department of Education.

What Are Some Benefits?

- * injury compensation if injured during normal working hours
- * free medical examination for all new enrollees

PUBLIC EMPLOYMENT PROGRAM

Emergency Employment Act

What Is It?

It gives unemployed and underemployed people jobs in needed public service areas during period of high unemployment, along with services and training to help move them into permanent employment. The program operates on both the City and County and State levels and is funded through 1973.

Who Is Eligible?

- the unemployed
- the underemployed
- handicapped veterans
- veterans
- primary target groups
    - persons whose native tongue is not English and whose ability to speak English is limited
    - persons from families with income below the poverty line
    - welfare recipients
    - persons from socio-economic backgrounds associated with substantial unemployment
    - young persons 18 or older entering the labor force
    - persons unemployed or underemployed as a result of technological change or cutback in federal expenditures

A minimum of one-third of participants must be Vietnam era veterans who have served subsequent to August 5, 1964. Also, no more than one-third of the total participants may be professionals.

What Are Some Employment Areas?

One of the goals is to place at least 50 percent of the participants into permanent employment with City, State, Federal or private industry before their term of employment expires under the Act. Areas in which participants are employed are those which will probably experience future growth. All positions are those previously requested by departments but deleted because of budget limitations. Jobs are in such fields as environmental quality, health care, education, public safety, crime prevention, prison, rehabilitation, transportation, recreation, maintenance of public facilities, and community beautification.

What About a Training Program?

Training is mainly to qualify the participant for the particular position he is filling so that if it later becomes funded by the government, he can compete for the position and become a regular civil service employee. All participants are enrolled in on-going departmental training programs appropriate to their positions.

What About Pay and Benefits?

Participants are paid in accordance with current Compensation Schedules for the particular class of work. All compensation is at entry Step B. No position may be compensated at a rate over $12,000 per year. Fringe benefits are those which are normally associated with government employment: Workmen's Compensation, medical and dental plans, group life insurance, retirement, social security benefits, and unemployment insurance.

Whom Do I Contact?

City and County of Honolulu:

Office of Human Resources
Emergency Employment Act
615 South Beretania Street
Honolulu, Hawaii 96813
Telephone: 546-8081

State:

Public Employment Program
333-A Queen Street, Suite A
Honolulu, Hawaii 96813
Telephone: 521-6795

WORK INCENTIVE PROGRAM (WIN)

What Is It?

It helps welfare recipients under the Aid to Families with Dependent Children program to become wage-earning, independent members of society. The program meets the enrollee at his level of experience and motivation and helps him get training and education for a job that gives him a chance to use his potential. The goal is not just training--but employment with a future.

Who Is Eligible?

Anyone on welfare and over 16.

What Can WIN Do?

* help a person learn what work he can do and wants to do
* provide education and work experience
* help with personal problems that interfere with getting and holding a job
* help with medical problems that interfere with getting and holding a job

Where Will the Work Be?

Good full-time jobs with chances for advancement:

* on the job in office, factory or shop
* school, hospital, library, or government agency

What Kinds of Jobs?

secretary
nurse aide
key punch operator
welder
counselor aide
auto mechanic
computer operator
teacher aide
heavy equipment operator

What About Pay?

* wages are in addition to welfare payments
* as wages increase, welfare payments are reduced until the worker is self-supporting
* during training, welfare payments continue, and worker may receive up to $30 extra per month
* if employed on a special work project, pay can be full welfare payment plus 20 percent of earnings

Whom Do I Contact?

The Employment Opportunity Center
1347 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814
Telephone: 548-6546

SCANNING THE FUTURES

SCANNING THE FUTURES

After many discussions and lengthy reflection, this section on Scanning the Futures was added. Without it the Manual would not provide navigational signs and the consumer would float across the sea of occupations and possibly sink in uncertainty. This section, as is true of all but the Introduction, was written by a member of the student task force.

Preparing for one's career is part of preparing for the future. But the future is uncertain, and if the past 50 years are any indication, we are assured of as much change and likely more in the next half century. Already the knowledge explosion and the splintered specializations, the galloping technology and remarkable inventions suggest a future for which we were not prepared but about which our intuition leads us to ready our children and children's children.

For the State of Hawaii, the 70's may mark the transition era when the torch is passed from the old to young, when the new lifestyle will be a blend between the values of the oldtimers and the values of the newcomers and when indeed the Golden Man of Michener's Hawaii will emerge as the new Hawaiian.

Whatever Hawaii and its peoples are to become will depend on the choice between an attitude of action or an attitude of reaction, between a politics of perspectives or a politics of crises. For Hawaii the choice is clear. The State has begun to act on a broad front--population control, improved land utilization, cleansing the environment, diversifying the economy, exporting human resources, organizing its leadership in the Pacific-Asian dominion, etc. Hawaii is so sensitive toward its future that the State has created a Commission on the Year 2000. And in its most recent addresses, Lieutenant Governor George Ariyoshi has spoken of Hawaii's "preferred futures" as the state theme to create and invent the future that we in Hawaii want. It should be possible in Hawaii, he has suggested, not only to offer choices in careers but choices in geography as well.

Career guidance and vocational education must be welded to this sense of State possibilities. Our young must not be riveted to the past for that can only choke their possibilities and guarantee the me-too-ism that has forced the emigration of the young and talented to the Mainland and elsewhere. We need to spark their imagination, to encourage their creation of bold new things for Hawaii. What does it mean for Hawaii to be the only state in the union located in international waters? How best can Hawaii amplify the potential of humans in the world through its leadership in the Pacific-Asian sphere? Even the questions to be asked demand a training of young minds which is not yet available in education and which awaits its invention.

Thus any occupational manual for Hawaii must make emphatic that new careers, like the future, can be created.. Users of this Manual have already been directed to think of all possible occupational goals and to seek career satisfactions through a variety of jobs or job activities. But the most exciting possibility is the creation of new careers in Hawaii and personalized careers for its citizens as our country responds in new ways to some of its old problems and invents exemplary methods to solve new problems. To that end, this section on Scanning the Futures has been added.

Walter Nunokawa, Ph. D.
Department of Educational Psychology
May 31, 1972

SCANNING THE FUTURES

Model Building: Because ESP has not evolved to the point where psychics can get government contracts or beat the stock market, we are forced to rely on scientific methodology to predict the future. This work, predicting the future, has never been adequately put together, so nobody really knows what precisely is going on. Funny thing is that all the time you were in school your instructors were supposed to be getting you ready for the future that no one knows much about.

Basically the job is one of model-building and model testing. Engineers use model airplanes in wind tunnels to predict airplane performance. Physicists make abstract models of atoms to predict what will happen in cloud chambers. The predictions are tested; if the model has predicted accurately, we call it a "true" model and try to predict other things from it.

Two basic approaches, out of many possible ways, are found below. One is the "official common-sense" predictions of governmental agencies such as the Department of Labor, using an "it worked in the past so it probably will continue in the future" assumption. These projections basically project past trends. The other approach is newer, more complicated, and seemingly more valid in principle, but work has just begun.

This is the Ecological - Systems approach, in which a complete model of the world's various dynamic inter - relationships are built and run through various possibilities of "what-would-happen-if." This approach explicitly defines the model being built, and therefore allows criticism and improvement, in addition to not relying on linear relationships. More on this in the Systems section.

Note that dividing the Governmental and Ecological approaches doesn't necessarily imply any antagonism between the viewpoints, or that only these viewpoints are "governmental" or "ecological." It's just that persons starting with different models will have different outlooks.

WHAT IS THE LABOR FORCE LIKE NOW?

40% of the population of the U.S. works. One third of the workers are women. One out of seven workers is self-employed or works for his family. 13% of workers are government employees nation-wide, but there are almost twice as many in Hawaii. The jobs we do are becoming steadily more complex and specialized, more white collar, more demanding of an advanced education or training. Information handling is more and more the important skill.

WHAT GOVERNMENT PREDICTS FOR THE SEVENTIES

During the seventies, the post-war baby-boom population will advance from the colleges and entry level jobs into the mainstream of the world of work. These persons, who crowded into the colleges in the second half of the 60's, are better educated, more innovative and creative, and more eager for participation than ever before. In general these persons have higher aspirations than ever before. Teenage unemployment is likely to drop as these baby-boomers age.

Blacks are expected to make steady rapid advances in gaining employment. Although by 1980 black workers will still be doing a higher proportion of laboring and service jobs than their population warrants and whites will be doing a larger share of the professional jobs than their population warrants, there will be a distinct move toward equity. Blacks of a given educational level are still earning only three-fourths as much as their white counterparts, but at least college-educated blacks are moving rapidly toward equity.

This is why access to college is very important to disadvantaged minorities. For Hawaii, the Hawaiians, Samoans and Filipinos are grossly underrepresented at the University of Hawaii but it is expected that corrective remedies will be applied.

Part-time openings and workers are expected to increase. Most jobs will continue to be in service industries. In the '68 - '80 period, on the national scene, service occupations are expected to expand about 55%, government jobs about 37%, contract construction about 37%, and agriculture, which is being mechanized rapidly, should shrink about 20%. Most women now are in clerical jobs and few are employed in the crafts. In terms of proportion, one-third of professional and technical jobs are held by women. In every ethnic group women earn less than men and in some cases being a woman is a bigger bar to employment than is being a member of a minority group. Shirley Chisolm, female candidate for President, states that her being a woman has been a bigger handicap than her blackness. The future of women's equality is uncertain at this point.

ALL ABOUT HAWAII

Hawaii's last decade has been one of outstanding growth because of three factors: sales to tourists, Federal spending, and a large volume of construction. Personal income has increased faster than the national average at 8.8% per year as opposed to 7.2%.

Hawaii's economy is highly sensitive to changes in tourism, as is well known, but is just as sensitive to changes in agriculture. Fortunately sugar and pineapple, our biggest agricultural products, have operated in a secure and stable market. The federal spending and tourist monies are, however, liable to fluctuate rapidly with political events. The R & R spending has diminished because of fewer personnel in Viet Nam, but Japanese tourists,

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who find Hawaii suddenly cheaper after the devaluation of the dollar, have temporarily made up that loss. Some signs indicate increased Japanese interest in building and buying here, and the possible ramifications of trade with China are anybody's guess.

In general we can expect Hawaii to become more and more tied to the world economic situation, less and less an independent market. Our fate is ever increasingly bound up in the fate of the U.S. and the world.

Hawaii's fate, then, is directly linked to the effectiveness of the New Economic Policies of the national administration. The current outlook, according to a state researcher, is "guarded optimism," although the policies are not as effective as had been hoped. In this view, state planners look for continued steady expansion of the state's economy over the next decade. Spectacular progress like the sixties, they hold, is unlikely, but expansion will continue in an orderly way. The projections look like this:

The city planning department predicts, for the island of Oahu, a decline in agricultural employment, and a major expansion in services and communications. It is expected that the state government will provide most of the new employment in the governmental category.

All in all the total employment on the island of Oahu is expected to expand strongly. Oahu's population, which was in the vicinity of 200,000 in 1940, over 300,000 in 1950 and about 600,000 in 1970, is expected to continue to expand to about 700,000 in 1980 and well over a million by the year 2000, possibly as high as two million.

The State Department of Labor expects 50,000 new jobs here by 1975, in addition to the more than 380,000 already held. Almost 90% of all new jobs are expected to be in the service industries. Most expansion will be white collar, and many of those will be professional or technical people. Almost two-thirds of the job openings in the next short period will be from expansion of industry, and only one-third will be replacement of old persons who die or retire. The financial, insurance, and real estate areas are going to be strong expanders, along with communications, transportation, and utilities. Agricultural employment will continue to decline in these projections.

In the Department of Labor predictions, the professional and technical areas will expand the fastest, so there will be less demand for managers. Managers will have less to do since so many people are well-trained and will require less supervision. Drivers, deliverymen, laborers and such semiskilled workers as textile workers are being affected by technological changes and will lose out, proportionately, even though some jobs will be available.

THE ECOLOGICAL MODEL

When the earth is viewed from far out in space, all that can be seen is a speck of dirt in the void, covered with cheery blue and green. All the life on earth arose from rocks and elements and water, with the encouragement of the sun's rays, and now living things inhabit most of the globe. Truly the earth is an oasis and a paradise in an extremely beautiful but dangerous blackness. Here on Spaceship Earth everything has a place and everything thrown away comes back eventually, because the earth is naturally built in cycles. The earth itself is a living organism, processing matter and energy in ceaseless transformations. On earth every item in the biosphere is enmeshed in a marvelous web of interrelationships, in which everything is connected to everything else. There is not all that much life on earth after all--all the living things squashed out flat and spread over the earth would be just more than half an inch thick.

Humans as living beings, share with other life a unique and rare place.

But something went wrong when man began to advance himself--carelessly and savagely he destroys his surroundings, breaking the delicate patterns evolved over a billion years. Man, in his haste to be safe, secure, insulated from nature, has poisoned the cycles of transformation that his life depends on. He is taking more than his share, wasting what he does take, and in general acting like a spoiled and irreverant brat on mother earth. Also, man is increasing his numbers steadily and making his insults larger and larger.

It is only a matter of time before the earth's capacity is overloaded and poisoned to such a degree that people begin dying off literally like flies in a closed bottle. Some estimates put the beginnings of massive world-wide famine as soon as 1975, some give us 50 or a hundred years in the most optimistic estimates. Such famines would make isolated problem areas such as Biafra look like mere "end-of-the-month-gotta-eat-hamburger-blues." A crisis of unprecedented magnitude is on the way--not enough clean water, air, or fuel to go around and an increasing load of poisons. Maybe climactic shifts or a nuclear war over scarce resources, all are forecast in various combinations.

Can we change our course in time? Isaac Asimov, the well-known writer and biologist, put it this way:

> *We're going to go right to the brink. We're in the position of a man who has fallen from the Empire State building and after dropping 90 stories says it's all right so far.*

Barry Commoner, in many ways the grandfather of the environmental movement, stated in his latest book:

> *My own judgment, based on the evidence now at hand, is that the present course of environmental degradation, at least in the industrialized countries, represents a challenge to essential ecological systems that is so serious that, if continued, it will destroy the capability of the environment to support a reasonably civilized society.*

Paul Erlich, Stanford biologist and author, responded to a Playboy interviewer in this way:

> *Why do you say the death of the world is imminent?*
> *Because the human population of the planet is about five times too large, and we're managing to support all these people at today's level of misery only by spending our capital, burning our fossil fuels, dispersing our mineral resources, and turning our fresh water into salt water. We have not only overpopulated but overstretched our environment. We are poisoning the ecological systems of the earth--systems upon which we are ultimately dependent for all our food, for all of our oxygen, and for all our waste disposal.*

SYSTEMS

Systems are groups of interrelated phenomena that operate with internal feedback. Rather than operating independently, like my right hand and your right hand, the fate of every aspect of a system is bound up inextricably with the fate of the system as a whole and with every other part of the system directly or indirectly. The whole world is a system.

Electrical circuits are systems. The "balance of nature" is a system. A system has some sensitive points at which it can be most easily affected. Also, systems may often be "counterintuitive," that is, what seems like the right thing to do (people are starving, let's raise more food) may be just the thing to make the problems bigger and deadlier.

THE WORLD SYSTEM

Several major things go on in the world: population, and its growth or decline; industry, and its expansion or contraction; natural resource usage; agriculture; and so on. Making a "systems" model of the whole globe is obviously a difficult project, because the designer tries to identify these major activities and figure out how they are related. Major aspects of the world are related in either positive or negative feedback loops or both. In a world of unlimited size and unlimited resources, as population grew industry would be created, and in turn the material progress created by industry would allow and encourage more population. This is a positive feedback loop. But, adding pollution to this system, the result is that pollution, which grows with population and industry, inhibits further growth. This is a negative feedback loop. Systems designers try to describe all these changes and relationships in numbers.

The thing about systems is that one cannot necessarily predict what they will do merely by studying the isolated trends of individual parts. The point of the model is to try to discover how the whole thing behaves as a unit. It is more than the sum of its parts.

Recently a pioneering study was done: systems modeling the world and projecting what would happen for several courses of action open to us.

THE CLUB OF ROME REPORT: The Limits of Growth

The March 6, 1972 publication of the Limits of Growth (Meadows) by the Club of Rome, an international businessman's organization, challenged conventional ideas about "what we should do" and lent support to the ecologist's deep intuition that industrial society itself is a major demon to the planet. Abstracts of the work, based on a year-long computer-modeling study of the world, have appeared in MIT's Technology Review Ekistics, the Futurist and Playboy, but perhaps best summarized by Udall and Stansbury in their newspaper column "Our Environment":

> *Unless we move resolutely to half industrial growth in this century and population growth as soon as possible thereafter, mankind will suffer a massive economic collapse and global epidemic of deaths withing two or three generations.**

---

* Stuart Udall and Stansbury, "Our Environment", Advertiser, April 10.

INDUSTRIALIZATION AS THE MAJOR DEMON

As noted earlier, every system has some major forces and minor forces in it. To try to alter the behavior of a whole group of interactions on the basis of changing a minor force is silly. These new studies suggest that the central force that is moving us toward disaster is large scale industrialization itself; its massive resource usage, abundance of pollution, and even its seemingly benevolent reduction of death rates all follow from a high rate of capital investment and the building of even more factories and plants.

To cut birth rates without reducing capital investment would only reduce temporarily restraints that hold back economic expansion. Shortly whatever breather was gained would be gone forever because economic expansion permits and encourages larger population. Population would soon rise. Soon we would be back where we were, but with a larger problem.

In the same way cutting pollution rates without cutting capital investment merely postpones and enlarges a major crisis.

The study suggests that partial efforts will only do us harm and could cause the collapse of most of western society. Dependent as we are on the usage and convenience of technology, we can ill afford to be put in the position of having to make sudden desperate reorganizations of the way we grow food and make the things we need to survive. We have to consciously guide ourselves, quickly but smoothly, to an equilibrium.

We must therefore begin now to slow the tide of industrialization and simultaneously do all the other things, like slowing birthrates and pollution that will be necessary if we expect to have a decent standard of living half-a-century hence.

DISSENT TO THE CLUB OF ROME VIEW

Opinion is divided in the Ecological camp, as it is everywhere. There is a substantial view that it is the "type" of industrialization and production we undertake rather than just industrialization itself which is polluting. There is some merit to this view, as some activities are certainly more wasteful and pollutive than others. But the problem is also that the central activities of the industrial state: massive use of metal, fossil fuels or other energy sources, and numerous chemicals, all are poisonous in content or process or are environmentally degrading.

MOVING TO THE STEADY-STATE OF LONG-TERM BALANCE WITH NATURE

Our planet is only so large, with only so many resources on it, and to do a good job of running the human race it will be necessary to come up with some good plans about how to even out the economy and stop population growth.

Everybody will have to get used to not wasting things and to being very careful about building: not destroying what can never be replaced. Growth and expansion, always bigger and more, must be replaced with definite limits on size, only so much and that's it. Emphasis must shift to quality of goods and construction rather than quantity. Compactness, simplicity of design, efficiency, and minimum wastage must become the new aesthetic values.

THE ECONOMIC FUTURE

The main economic problem of the past decade has been a simple dilemma: when unemployment is low, inflation is high, and when inflation is low, unemployment is high.

Traditional keynesian economic policies suggested governmental action to increase investment and expand the economy, using up the slack workers, but this proved ineffective. The administration, unable to get around the dilemma, had to resort to wage and price guidelines, a relatively drastic measure. The economic future is tied to the success of these new economic policies, and to the prospects for new courses of action.

One analysis is as follows: the population can never be fully employed-unless there is a market for everything that we can produce. Our economic machinery can produce so much more than our basic survival requirements that full employment depends on a veritable orgy of consumption, in which we consume endless prepackaged cornchips, postcards, the latest "in" style of clothing, movies, camaros ad nauseum, and so forth. Our expanding technology is even now rapidly increasing the productivity of each man's work due to mechanization and cybernetic trends, and our possible productivity continues to rise. Since, as we have seen, we have to hold the line on future economic expansion and have to at the same time make sure that everyone eats, our only recourse is to give up the antiquated idea that everyone must work. Rather than having the government employ the out-of-work minority that would be ever-growing (we see indications of this already) in busy-work jobs where they would get in the way of people doing something useful, it has been suggested that the government provide as a basic right a maintenance income for all citizens. The attitude would be: "You are an American; therefore you are entitled to a certain minimum standard of living." One simple plan involves a direct non-taxable payment for some four thousand dollars to each family of four or some similar amount. This would be given to everyone. As time goes on, the arguments for this sort of guaranteed income, which have been advanced both by liberals and conservative, become more and more persuasive. Other persons want just guaranteed jobs for everyone.

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ADJUSTMENTS

In the future it is possible that many persons may not have to work, or may be working less. This has implications for our whole society. Most people want to work, because it gives them an identity and a feeling of usefulness, so there may be some problems in adaptation. Even today certain symptoms of the cultural shock can be found, as in the cartoon where girlfriend brings home her hippie-date to meet middle-class dad, who asks, "What do you do?" Even now a certain class, not just the rich, has sprung up that really doesn't do anything. Because of welfare, food stamps, unemployment compensation, and all the other reflections of the general level of the country's affluence, they need to work only occasionally. A change in values must follow from work for work's sake, which is like "cleanliness is next to godliness," to "work for the sake of its fulfillment or results only."

VALUE QUESTIONS FOR THE DECADE

If the country decides to slow down, we will face a very hard problem. Since the 1940's every fifth of the population has earned the same proportion of the wealth of the nation relative to every other fifth. In other words, the poorest fifth still gets that same proportion that it did in 1940. In a steady-state rather than expansive economy the squeeze will be on, and minorities will be more ready to demand better conditions. We as a country will have to face up to the fact that we now have a class of super rich and a class of chronically poor.

If the country decides not to slow down but opts for the traditional "onward and upward" route, we will do so only at the expense of the rest of the world. As resources become more desperately needed and scarce, more and more countries will look at our fantastic squanderings angrily, and will wonder why we are using so much. This would mean potential for serious conflict. Our military already is laying plans for developing the sort of electronic war we conduct in Vietnam into a thing to be used anywhere in the world.

What will we do? It is hard to imagine the big corporations voluntarily deciding to slow down their activities. As businesses they are dedicated to getting what they can out of the market, which sometimes does and sometimes doesn't reflect long-term necessities.

FINALE

What happens to the individual who is looking for a job will depend directly on the course of action that the government takes in response to the various problems that seem more and more serious as time goes on. Will we cut back on economic growth, or continue expansion at the risk of destroying the quality of life? The issues of ecology, distribution of wealth, and equality of opportunity as food and supplies become scarce will all be important.

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Dr. V. Dale
University of Hawaii

Dr. J. Dator
Associate Prof. of Political Science

Mr. H. DeCosta
Administrator, Apprenticeship Program
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Mr. C. Dias
Administrator, Apprenticeship Program
General Construction & Laborers
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Mr. T. Dinell
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Mr. R. Fonsica
Business Agent
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Mr. G. Frazier
State Dept. of Labor & Industrial
Relations

Dr. K. Fujimoto
Suite 419
1441 Kapiolani Blvd.

Mr. B. Fuller
Crown Corporation

Dr. J. Furgerson
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Mr. E. Gerlick
First Hawaiian Bank

Dr. S. Goto
Assistant Dean, College of Tropical
Agriculture
University of Hawaii

Dr. T. Gust
Educational Psychology
University of Hawaii

Mr. G. Gutermuth
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Mr. D. Harm
KHON-TV

Dr. I. Harris
School of Library Studies
University of Hawaii

Dr. M. Hasegawa
Regional Medical Program

Mr. E. Hashimoto
Training Coordinator
Plumbers & Pipefitters Union,
Local 675

Mr. J. Hashimoto
Training Coordinator
Sheetmetal Workers Union,
Local 293

Mr. R. Hashimoto
Head of Industrial Relations
Sheraton Hotels of Hawaii

Mr. R. Hazama
Dole Pineapple Co.
Supervisor Personnel Relations

Mr. C. Henan
Bartenders Training Academy

Mr. T. Henry
Western Union of Hawaii, Inc.

Ms. Herrick
University of Hawaii

Ms. B. Hirazawa
Hawaii Employment Council

Mr. Honda
State Department of Regulatory Agencies

Mr. C. Hong
Ala Moana Pumping Station
Sewers Division
City and County of Honolulu

Mr. E.S. Hoofman
Instructor, Welding Technology
Honolulu Community College

Mr. K. Inuma
Job Corps

Mr. G. Jacoby
Planning Office, Waianae Model Cities

Ms. M. Kagen
University of Hawaii

Mr. H. Kalani
Kapiolani Community College

Mr. C. Kamalu
Chief Classification Division
Dept. of Personnel
State of Hawaii

Dr. K. Kamimura
Associate Dean of Vocational Education
Leeward Community College

Ms. J. Kapoi
Pohukaina School

Mr. S. Kealoha
Hawaiian Electric

Mr. C.S.C. Kim
Instructor, Welding Technology
Honolulu Community College

Ms. Y. Koga
Dept. of Dental Hygiene
University of Hawaii

Mr. F. Kubo
Personnel Office
Kuakini Hospital

Mr. K. Kuboyama
Apprenticeship Coordinator
Honolulu Community College

Ms. E. Kudo
Dept. of Education

Ms. S. Kyi
University of Hawaii Community
College System

Mr. H. Lau
State Dept. of Budget & Finance

Mr. B. Lee
United Public Workers

Mr. T. Leong
Sear, Roebuck and Company

Mr. C. Leser
Hawaiian Electric Company

Ms. S. Levy
Comprehensive Health Planning
State of Hawaii

Ms. D. Lindley
Better Business Bureau

Ms. Logan
Manpower

Mr. W. Loomis
Apprenticeship Division
State Dept. of Labor and Industrial
Relations

Mr. M. Luke
Personnel Division
State of Hawaii

Mr. M. Lydgate
Hawaiian Electric

Ms. B. MacDonald
Medical Records,
Queen's Medical Center

Ms. Maeda
Manpower

Ms. Z. Male
Hawaii Restaurant Association

Mr. E. McDaniel
KGMB-AM-FM TV

Mr. D. Metzger
KGU 76-Communications Hi, Inc.

Mr. J. Michael
School of Public Health
University of Hawaii

Mr. R.A. Mitchell, Jr.
Executive Vice-President
Edward Enterprises, Inc.

Dr. A. Miyahara
Dept. of Animal Science
University of Hawaii

Dr. D. Miyahira
Counseling and Testing Center
University of Hawaii

Ms. F. Miyamoto
State Employment Service
Dept. of Labor & Industrial Relations

Ms. J. Morioka
Medical Assisting
Kapiolani Community College

Mr. F. Moriyama
Dole Pineapple Co.
Assistant Vice-President
Industrial Relations

Mr. A. Murakami
Personnel Specialist
City and County Civil Service Commission

Mr. K. Muramatsu
Head, Apprenticeship Program
Ironworkers Union, Local 625

Mr. S. Nakamura
Training Coordinator
Painters Union, Local 1791

Dr. J. Newhouse
Associate Prof. of General Science

Mr. B. Ney
Head, Federal Apprenticeship
Program

Mr. D. Nickleson
AMFAC

Mr. K. Nishihara
Personnel Office
State Dept. of Health

Mr. M. Nitta
Cannon's College of Commerce

Mr. T. Ogi
National Park Service
Honolulu Branch

OIGSC Advisory Council

Mr. R. Ooka
Manpower Development & Training
Program

Mr. D. Pacheco
Business Finance Secretary
Glaziers & Glassworkers Union,
Local 1889

Mr. A. Pavao
Western Union, International, Inc.

Dr. A. Pomponi
State Dept. of Planning: Economic
Development

Ms. M. Potter
Hawaii Nurses Association

Mr. F. Power
Assistant, Industrial Relations
Hawaiian Telephone Company

Mr. A. Preis
State Foundation on Culture and
the Arts

Mr. R. Printup
Milici Advertising

Dr. W. Quisenberry
Hawaii State Dept. of Health

Mr. E. Reimel
Ellen Reimel School of Dancing

Mr. K. Reyes
Training Coordinator, Business
Representative
Floorlayers Union

Mr. S. Roehrig
Representative: Hawaii
State of Hawaii, Legislature

Mr. T. Rohr
Pacific Training Council

Mr. L. Sebresos
Business Representative
Asbestos Workers Union

Mr. W.R. Sewell
Home Builders Association of Hawaii

Mr. L. Shimazu
Kapiolani Community College

Ms. Silva
Sears, Roebuck & Company

Ms. A. Simpson
Meadow Gold

Ms. D. Spaulding
Mental Health Association of Hawaii

Mr. K. Stehower
Assistant Personnel Head
Spencecliff Corporation

Mr. R. Sue
State Park Department
State of Hawaii

Mr. H. Takura
Mass Transportation Office
City and County of Honolulu

Mr. R. Tam
AFL-CIO Hotel & Restaurant
Workers Union, Local 5

Tanabe Dental Laboratory
1279 S. King St.

Ms. C. Tani
Dental Assisting
Kapiolani Community College

Ms. P. Taylor
Medical Technology Division
University of Hawaii

Mr. M. Theaker
Crown Corporation

Mr. H. Thompson
Queen's Medical Center

Mr. S. Tyau
Librarian
Hawaii Employers Council

Dr. M. Uyehara
Rm. 403 1040 S. King St.

Ms. L. Van Orden
Medical Records
Leahi Hospital

Dr. R. Van Reen
Dept. of Foods & Nutritional
Science
University of Hawaii

Ms. E. Wat
Cooperative Area Manpower
Planning System

Mr. D. Wetherall
KHET-ETV Network

Ms. D. Wetters
University of Hawaii

Ms. J. White
Employment Office
Queen's Medical Center

Ms. M. White
AFL-CIO Hotel & Restaurant Workers
Union, Local 5

Mr. D. Wong
Aloha Airlines

Mr. G. Wong
Aloha Airlines

Dr. M. Wrigley
Kapiolani Community College

Mr. F. Yamamoto
State Dept. of Labor &
Industrial Relations

Mr. J. Youn
Director of the State Consumer Agency

Ms. E. Young
State Department of Regulatory Agencies

Mr. A. Yuen
Head, Classification & Pay Division
City & County Civil Service Commission

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AGRI-BUSINESS AND NATURAL RESOURCES

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AGRI-BUSINESS AND NATURAL RESOURCES

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SUGAR

Introduction

Sugar is Hawaii's most important export industry. Hawaii is the largest sugar-producing state in the nation, providing 10 percent of the total United States requirements. About 90 percent of the world's total sugar supply is produced and marketed under some form of government regulation making sugar one of the most highly regulated food products in the world. Production in the State of Hawaii is governed under the Sugar Act of 1948, as regulated by Public Law 331 of the 89th Congress. This Act establishes quotas for domestic and foreign sugar-producing areas. Hawaii's sugar producers are completely dependent upon the effects of Federal legislation. If Hawaii or any other domestic producer did not have its quota, 1,100,000 tons of the U.S. market, it would be impossible to continue sugar production.[1]

Opportunities

The agricultural aspect of the sugar industry employs an annual average of over 5,800 people. With the exception of upper level managing personnel, all working personnel are governed by collective bargaining agreements of the ILWU. Individuals are hired at the lowest entry level with the exception of skilled tradesmen, such as machinists or welders, and progress within a specific company or plantation unit as openings occur for which they are qualified. Any openings are posted on company bulletin boards and may go as far as the immediate community. Entry level positions such as Field Hand, may be advertised in the newspapers.

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[1] Agricultural Development Plan, OPPORTUNITIES FOR HAWAII AGRICULTURE, State of Hawaii, 1970.

Hawaii's sugarcane workers are noted as being the world's highest paid. The industry is interested in attracting people with broad high school or post high school backgrounds. The union and the companies provide liberal fringe benefits. However, young people are not looking to the sugar industry for jobs. Many of the hires are persons who have immigrated to Hawaii from some foreign country and are unable to obtain opportunities elsewhere in the community despite their varied educational and social backgrounds.

Outlook

Although the U.S. Sugar Act establishes quotas, it does not assure a market. Hawaiian sugar vies with 37 other beet sugar plants in marketing territory covering 11 western states. Included in the costs of production are the costs of ocean freight to the refinery in Crockett, California.

The high level of technology which, in the past, has brought Hawaii one of the most intensively cultivated, mechanized and productive industries in the world needs to be increased still more if the industry is to keep pace with the rising cost of production factors. In certain respects, it is doubtful that sugarcane can effectively compete against hotels, homes, and golf courses on a price basis.

PINEAPPLE

Introduction

Pineapple is Hawaii's second most important agricultural industry. It is grown commercially on five out of seven of the inhabited islands, Hawaii and Niihau being the exceptions. Hawaii is the fifth largest exporter of canned pineapple to the world market. Total production, however, represents nearly 40 percent of the world's total. Of the total United States demand for canned pineapple, Hawaii supplies over 60 percent.

Opportunities

The total industry employs about 6,000 regular and over 15,000 seasonal workers. These groups may be broken down into regular workers who are covered by collective bargaining agreements; regular seasonal workers who have been employed steadily over several seasons and receive union scale wages; and seasonal workers who are employed on a casual basis for one to three seasons at the most. The latter group is comprised mainly of local high school youths seeking summer employment.

Entry is usually at the ground level, with the exception of skilled tradesmen, such as welders, mechanics, or electricians. Progression within an individual company is based on experience and general qualification for a high level position. Openings are usually posted on company bulletin boards and are rarely, if ever, advertised in the community except for entry level or seasonal employment.

The cost of labor is, perhaps, one of the industry's most serious problems. The lack of labor is a further cause of anxiety. The shortage of labor is apparent at the plantation as well as at the cannery. The *Agricultural Development Plan for the State of Hawaii-1970* noted that "one cannery reported a company-wide shortage of 800 people, mostly at the cannery; at another, the labor shortage was forcing long shifts." This fact seems almost ironical in light of the present high rate of unemployment.

Training programs maintained for qualified employees provide paid-for training in various trades at the community colleges. A trainee who falls out of his specific program may return to work at the company with no loss of position or benefits.

Outlook

The Hawaiian pineapple industry is faced with increasingly severe competition from foreign producers. Its competitive position is weakened in part by rising costs of production, land, wages and taxes of all kinds. Foreign canned pineapple is priced at lower levels in both the foreign and domestic markets. In the domestic market, other varieties of canned fruit provide another major source of competition. Competition is intense from orange, tomato and other juices.

There is likely to be increased mechanization of the major field operations to alleviate some of the labor shortages. Although land is sufficiently available to meet current market needs, the urban spread is likely to encroach upon pineapple lands. There should be increasing competition from urban and resort interests in obtaining leases.

AGRI-BUSINESS AND NATURAL RESOURCES

DAIRY FARM HAND
(D.O.T. 411.884)

Job Summary

The Dairy Farm Hand works on a dairy farm, performing duties requiring knowledge of dairy cattle; weighs and mixes specified feeds and feed supplements, fills feed troughs; fills water troughs; drives cows from stalls to pasture for grazing; examines cows to detect diseases; vaccinates animals for diseases; applies medication to cuts or bruises; sprays or bathes with insecticides; cleans stalls and barn, using disinfectant solutions, brushes and shovels; replaces bedding in stalls; marks identification symbols on cows; may maintain farm buildings, equipment, cost records; may be required to do milker's work.

Qualifications

1. Training and experience may be required; training should be of a vocational nature dealing with agriculture.
2. Ability to do strenuous physical labor
3. Ability to follow oral or written instructions

Promotional Opportunities

Training and experience as a farm hand may lead to other work such as Milker, Truck Driver, Plant Worker. Progress to higher levels is usually limited to supervisory positions such as foreman or plant chief.

Current Wages

$1.65/hr. state minimum
Range: $2.60/hr.
Career Range: $3.50+/hr.

Places of Employment

Dairy farms

Job Summary

The Equipment Operator operates various types of motorized equipment such as tractors and pick-up trucks as a major work assignment. The equipment usually have a factory rated capacity of less than 1-1/2 tons although heavier equipment may be operated as required. In addition, the equipment operator may be required to furnish the equipment with fuel, oil, water, and air; service and make minor adjustments such as replacing spark plugs, and adjusting the clutch and brakes.

Qualifications

1. Training and Experience: One year of work experience involving the operation of at least two types of motorized equipment representative of the type of machinery or equipment to be operated; completion of the eighth grade.
2. Possession of a valid State motor vehicle operator's license
3. Knowledge of methods of operating various types of motorized equipment; hazards and safety precautions applicable to those types of vehicles; maintenance needs of equipment
4. Ability to operate at least two types of motorized equipment skillfully and safely; observe and detect mechanical defects and takes measures to correct or repair; understand and observe traffic laws and rules; perform manual work; understand and follow oral and written instruction

Promotional Opportunities

Training and experience in this type of work usually leads to training in the operation of various types of motorized equipment requiring progressively greater skill. Progress in this area would lead to positions for operation of heavier equipment, bulldozers, large tractors, etc.

Current Wage/Salary

Start: $2.50+/hr.
Range: $4.00+/hr.

Starting Range: $430-$530/mo.
Career Range: $430-$800+/mo.

Places of Employment

State of Hawaii
City and Counties
Construction Firms
Earth Movers
Sugar and Pineapply Plantation Farms

AGRI-BUSINESS AND NATURAL RESOURCES

FACTORY WORKER:
MACADAMIA NUT COMPANY
(D.O.T. 529.886)

Job Summary

The Factory Worker is a seasonal employee for the macadamia nut companies who performs one or more of the following jobs in the factory: sort raw kernels, grade roasted kernels, salt nuts; fill, pack and seam portion cups; feed jars or tins into packing lines; check weighs filled cans before sealing; place liners in tins; operate vacuum sealer; inspect cellubands; cap jars; operate can seamer; pack tins and jars in cases; keep work area clean and orderly; perform various other jobs within the factory area as required.

Qualifications

1. Training and experience: This is an entry level position which requires little or no training or previous work experience; may require an eighth grade education.
2. Ability to learn various odd jobs of a repetitive nature
3. Ability to follow oral and written instructions
4. May require mechanical ability to perform some jobs

Current Wages

$2.20+/hr.

Employment Opportunities

This position is for seasonal employees due to the seasonal nature of the nut harvest. It is an entry level position from which a person may move to higher level positions of a seasonal nature such as:

Factory Worker (higher level)
Crew Leader (various grades)

Places of Employment

Macadamia Nut Processors

Employment Outlook

Work in this area is limited to the island of Hawaii where the nut processors are located. Jobs are few and mostly tightly held by local residents. Positions are quickly filled as the rate of unemployment on the island is high and work of any sort is hard to find.

AGRI-BUSINESS AND NATURAL RESOURCES

HAND HARVESTER:
MACADAMIA NUT COMPANY
(D.O.T. 404.887)

Job Summary

The Hand Harvester is a seasonal employee for the macadamia nut companies or independent nut ranchers. He performs the following duties: picks up nuts from under macadamia nut trees; places nuts in pouch supported from shoulders; empties nuts in bag at the roadside; manually rakes nuts from under trees into interrow to position nuts for mechanical sweeper; may pick up nuts left by mechanical harvester. The Harvester works under the supervision of the Harvesting or Orchard Foreman and is directed by the Hand Harvesting Crew Chief. This type of work involves stooping over and squatting or kneeling down almost continually all day long to get nuts from under trees.

Qualifications

1. Training and experience: This is an entry level position which requires little or no training or previous work experience.
2. Ability to follow oral instruction
3. Ability to work in a stooped or kneeling position continually, all day long

Promotional Opportunities

This position is for seasonal employees due to the seasonal nut harvest. It is an entry level position for field work from which a person may progress to other positions as follows:

- Husking Sorter
- Crew Leader
- Nut Hauling Crewman

These positions are also of a seasonal nature.

Current Wage

$1.65 State Minimum
$2.20+/hr.

Places of Employment

Macadamia Nut Companies
Independent Growers usually advertise during the harvest for Nut Pickers.

MILKER
(D.O.T. 411.885)

Job Summary

The Milker tends the machine that milks dairy cows; guides cows into the stanchion and cleans teats and udder with disinfectant; squeezes teat to collect sample of milk in strainer cup and examines it for curd and blood; starts the milking machine and attaches cups of machine to teat of cow; removes cups when required amount of milk is obtained; disinfects cups of machine after each cow is milked; empties milk receptacles and cleans and sterilizes equipment.

Qualifications

1. Training and experience may be required; training should be of a vocational nature dealing with agriculture or animal husbandry.
2. Ability to work with animals
3. May be required to meet health standards deemed necessary by the employer or the State

Promotional Opportunities

Training for this type of work is usually on the job. Progress is limited to a higher level such as Head Milker or Foreman.

Current Wages

Start: $2.50/hr.
Range: $3.00+/hr.

Places of Employment

Dairy Farms

Employment Outlook

Future employment is limited. There is no present expectation for dairy farming to expand beyond its present status due to high costs of land and capital expenditures necessary to land preparation where expansion is considered.

AGRI-BUSINESS AND NATURAL RESOURCES

POULTRYMAN: EGG
(D.O.T. 412.181)

Job Summary

The Poultryman raises flocks of hens for egg production; selects and purchases laying stock; feeds hens, cleans cages and nests, sprays hen houses with disinfectants, and observes hens for indications of diseases; vaccinates hens against diseases; collects eggs from cages or nests and records number of eggs laid; packs eggs in cases or cartons for shipment and stores eggs in coolers; inspects eggs for quality; arranges with wholesaler for sale of eggs; may hire worker to attend to hens; may incubate fertile eggs.

POULTRYMAN: MEAT

Job Summary

The Poultryman raises chickens, turkeys, and other poultry for sale as meat; selects and purchases poultry stock; feeds poultry; cleans brooders and houses, sprays poultry houses with disinfectants and observes poultry for signs of diseases; maintains feed and production records; may hire and supervise workers to attend to poultry stock; arranges with wholesaler for sale of stock; may incubate fertile eggs; may cull, kill and dress poultry, and pack for shipment; may specialize in raising certain types of fowl.

Qualifications

1. Training and experience requirements may vary from no experience to specialized training in Animal Sciences.
2. Ability to breed, raise, and market poultry and poultry products for a profit
3. Ability to put in long hours (where self-employed)
4. Ability to get along with others

Opportunities

There is always an opportunity for a man to venture into business for himself on the open market. There are a limited number of openings for helpers as many farm operations of this type may be limited to a family group. There may be limited openings for skilled Poultrymen in larger farms although farms of those types are also limited in number and scale in this State.

Current Wages

$1.65/hr. State minimum for helping positions

Places of Employment

Poultry Farms or Ranches
Agricultural Services
State of Hawaii

Employment Outlook

Openings may be expected for those with specialized training in Animal Sciences. Competition is very stiff among over 80 poultry farmers who supply over 90 percent of the local market. Initial outlay for those seeking to enter the market is quite high.

Job Summary

The Orchard Worker is a regular employee of the macadamia nut company. He performs various duties under general supervision of the Orchard Foreman or the Cultivation Crew Chief. He performs general orchard operations such as fertilizing, pest control work, weeding, spraying, cleaning holes for planting, field layout and road repair, occasional building maintenance and repair work, and may perform other menial work as required.

Qualifications

1. Training and experience: This is an entry level position which requires little or no training or previous work experience; may require an eighth grade education.
2. Ability to learn various odd jobs of a repetitive nature
3. Ability to follow oral instructions
4. May require mechanical ability to perform some jobs

Current Wage

$2.50/hr.

Promotional Opportunities

This is an entry level position for a regular employee of the macadamia nut companies. Progress in this occupation may lead to the following:
- Field Equipment Operator
- Planter, Pruner, Grafter
- Husking Crew Chief
- Cracking Station Operator

Places of Employment

Macadamia Nut Companies
Independent Nut Growers

Employment Outlook

There are several large areas on the island of Hawaii which will be requiring Orchard Workers of various sorts as the young trees reach the age needing more care. Most jobs at present are filled.

THE ARTS

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THE ARTS

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    2. Local Trends

NATIONAL TRENDS

The arts might be broken down into two general categories: fine arts, which are painting, photography, and sculpture; and the performing arts, which include music*, acting (D.O.T. 150.028), singing**, and the dance (D.O.T. 151.028 and .048).

In these fields the number of first-rate artists trying to "make it" is generally much larger than the number of opportunities available. Many artists supplement their incomes by teaching, and others work much of the time in different types of occupations. In considering an artistic career, young people should bear in mind this difficulty of earning a living through their artistic endeavors and should therefore consider the possibility of making their art a hobby rather than a profession.

Aspiring young artists usually must spend many years in intensive training and practice. They need not only great talent but also determination, a willingness to work long and hard, and an overwhelming interest in their chosen field.

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* music (D.O.T. 152.048 and .028, 090.168, 091.168, 092.228)

** singing (D.O.T. 152.048 and .028, 090.168, 091.168, 092.228)

LOCAL TRENDS

The outlook locally is even bleaker for the aspiring young artist. Those who are driven by the desire to reach the top in their artistic fields usually find that some form of study, performance, or gallery showings, etc., on the mainland is a prerequisite.

Following is a listing of what is available on the University level and in the Honolulu community for the individual who wishes to pursue a career on either an amateur or a professional level.

The performing arts:

Drama and Theater

U.H. Dept. of Drama and Theater, College of Arts and Sciences

Honolulu Theater for Youth

Windward Theater Guild

Hawaii Performing Arts Company

Oumansky Magic Ring Theater

Honolulu Community Theater--three workshops per year are offered for keikis, intermediates, high schoolers, and adults.

The Dance

University of Hawaii

- --Department of Drama and Theater, College of Arts and Sciences
- -- Music Department: Ethnic dances
- --Department of Health and Physical Education: Polynesian dance
- --College of Continuing Education: non-credit evening courses in ballet, jazz, and modern dance are periodically offered.

Dance studios in the Honolulu community offer a variety of specialities

Choral

The Hawaii Opera Theater, which is connected with the Honolulu Symphony, holds auditions periodically through the year.

Music

Honolulu Youth Symphony

Honolulu Symphony Society--the principal auditioning is done at the beginning of the symphony's season, which is September. Other positions are available throughout the year but not in large numbers. Musicians are represented by the Musicians Association of Hawaii.

The Fine Arts:

U.H. Art Department, College of Arts and Sciences

Honolulu Academy of Arts

Bishop Museum, Arts and Crafts Division

ENTERTAINERS IN HAWAII

Entertainment in Hawaii is an exciting field offering a variety of possibilities ranging from Hawaiian and Polynesian styles to contemporary and modern forms of entertainment. The artist may work solo or with a group of entertainers, and he may be a vocalist, musician, dancer, or comedian. The artist with more than one talent may successfully work up a combination of several skills.

In spite of the magnitude of the entertainment industry in Hawaii, it is not necessarily an easy field to break into. The artist doesn't choose entertainment as a career in the way a businessman might choose business management as his occupational field. TALENT is the key ingredient for the entertainer, and it is something he has been working at and developing over a period of years. In other words, the teenager graduating from high school doesn't casually decide that entertainment is the field for him and then go on to four years of schooling to come out with the title of "entertainer" after his name.

The young artist devotes a great deal of time and hard work, and in many cases a fair amount of money, to develop his talent. While he is a high school student he is frequently performing as an amateur at school or private functions, and long hard hours are put in practicing and building up what is termed the "repertoire." These are the songs, tunes, or dances that the artist has mastered and is prepared to perform as a part of his show. Not all amateur performers go on to become professionals. For many of them their interest is only a hobby.

In addition to talent, there are other key ingredients that the entertainer must have in order to "make it" professionally. Personality and physical appeal, which could be lumped together and termed "charisma," are extremely important. And the performer must be willing to be on stage night after night, which is a grueling routine and can be a hardship on the individual's personal and family life style.

Entertainment as an industry was mentioned in an earlier paragraph, and indeed, it is a business. Even a top performer such as Danny Kaleikini has stressed that he probably wouldn't have gone into entertainment as a career had it not been for his friend and business manager, Wesley Park. Danny started out playing drums in a group when he was a freshman at the University. Mr. Park offered Danny the encouragement to pursue a profession in entertainment, and he also had the organizational "know-how" to be of assistance to Danny.

But even with all of this behind him the aspiring professional needs that first "break" in order to get into the field. He usually starts out in the smaller rooms in the hotels or perhaps performing in small night clubs, and he must be at the right place when the opening is available. If he is a success in the smaller operations, he then may be one of the lucky ones who move up to the bigger operations that take on only big names in the entertainment field.

Most professional entertainers are union members. For further information the amateur should contact either the musicians union or the Guild of Variety Artists:

Musicians Association of Hawaii
Local No. 677, American Federation of Musicians
1856 Kalakaua Ave.
Honolulu, Hawaii
Telephone: 941-5061

American Guild of Variety Artists
Waikiki Biltmore Hotel
Telephone: 923-7531

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OTHER ART-RELATED OCCUPATIONS

The artwork appearing in newspaper and magazine advertisements, on billboard posters, brochures, catalogs, and television commercials often is created by a team of commercial artists.

Most commercial artists are employed as staff artists on a regular salaried basis by advertising agencies, commercial art studios, advertising departments of large companies, printing and publishing firms, textile companies, television and motion picture studios, department stores, sign shops, mail-order houses, greeting card companies, and a variety of other business organizations. Many work as freelance artists, selling their artwork to any available customers--chiefly to the same kinds of organizations that employ salaried artists. Some salaried artists also do freelance work in their spare time.

Employment and advancement opportunities for talented and well-trained commercial artists in most kinds of work are expected to be good through the 1970's. Young people having only average ability and little specialized training, however, will encounter competition for beginning jobs and will have limited opportunity for advancement.

As a representative of a leading Honolulu advertising agency put it, "Good art directors are hard to find." So, the employment outlook for the commercial artist is a favorable one; however, this statement needs some qualification.

With regard to local advertising agencies, job applicants must come with educational background, experience, and a portfolio of their work. Up until very recently the field was pretty much limited to mainland educated artists. However, in the Fall of 1969 Honolulu Community College began offering a program in applied arts which is intended to help bridge the gap for local students.

In addition to advertising agencies, there are employment opportunities in retail organizations in display departments, printing firms, and television work, for example. The artist may also work for art studios or do freelance work, but the individual rarely pursues either of these two opportunities without a great deal of experience. The commercial art studios are small operations, usually two or three-man shops. Before the individual branches out into freelance work, it is important that he have made a name for himself in the field of art.

The individual's portfolio of his work is extremely important. Regardless of stated educational background and experience, it is by his portfolio that the individual offers a visual indication of the quality of his work.

ADVERTISING AGENCY

COMMERCIAL ARTIST
(D.O.T. 141.031 and .081,
970.281 and .381, 979.381)

Job Summary

At the entry level the artist would do paste-up work, cutting and pasting together the basic parts of the advertisements. He might also do some layout work for small ads, which involves working up the construction or arrangement of the elements of the advertisement, planning the selection and layout of illustrations, photographs, and typography, and determining color and other elements of design.

Qualifications

1. Commercial art educational background
2. Experience desired though perhaps not mandatory depending on the individual
3. Portfolio

Promotional Opportunities

1. Junior Art Director
2. Senior Art Director
3. Creative Director

Places of Employment

1. Advertising agencies
2. Retail organizations
3. Printing firms
4. Commercial art studios
5. Freelance operations

Current Salary

$7,000 - $8,000/year

Employment Outlook

Favorable, though it should be kept in mind that in terms of numbers of opportunities locally, openings are somewhat limited. The experienced individual will have few problems.

Educational Programs

Honolulu Community College
Art Department
874 Dillingham Boulevard
Honolulu, Hawaii
Telephone: 847-2161

PROFESSIONAL PHOTOGRAPHER (D.O.T. 143.062, .282, and .382)

The employment outlook is a favorable one, but the beginning photographer usually finds that in order to develop his portfolio and to gain experience in the field of photography, a substantial financial outlay in terms of camera equipment and developing facilities is required. The field is developing rapidly and opportunities are enhanced the the individual's creative ability and imagination.

Many professional photographers specialize in such areas as portrait photography, commercial photography, or industrial photography. Other photographic specialists include press photography (photo journalism that combines a "nose for news" with photographic ability), aerial photography, illustrative photography, educational photography (preparing slides, film strips, and movies for use in the classroom), and science and engineering photography. Some photographers teach in high schools or colleges, act as representatives of photographic equipment manufacturers, manage photo-finishing establishments, sell photographic equipment and supplies, produce documentary films, or do freelance work.

The local outlook is in line with the national picture; however, the expenses the individual must anticipate as he is developing his skill in the field cannot be emphasized enough. An outlay of several thousand dollars is not uncommon. Of course, expenditures do not occur all at once, but are instead spread out over a period of time as the individual gains in knowledge and as he adds to the variety of equipment that is necessary.

Locally, most photographers are either freelance artists or work out of commercial photographic studios. They might be hired on a job-by-job basis by printing firms, advertising agencies, or retail establishments. Photographers are also found in the newspaper industry and working for television stations.

In Hawaii there is no educational training ground for the professional photographer per se. The University offers courses in photography with emphasis in the area of photography as a fine art. But the potential photographer might pursue such a background for the simple reason that he would gain experience and a broad background that would enable him to branch out into the area of specialization most interesting to him. Further information can be obtained from:

Art Department
George Hall, Room 131
College of Arts and Sciences
University of Hawaii
Telephone: 944-8251, 8533

COMMUNICATIONS

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C. Telegraph Industry

1. Local Trends

2. Job Summaries

Cable Operator

Communications Technician

Messenger

RADIO AND TELEVISION BROADCASTING INDUSTRY

NATIONAL TRENDS

Employment in the broadcasting industry is expected to grow at a moderate pace through the 1970's. New radio and television broadcasting stations will be established over the period primarily in small communities and will result in opportunities for some additional workers. Also, cable television (CATV) has emerged as a powerful new force in communications, and some additional job opportunities for professional, technical, and maintenance personnel will be created as CATV systems increasingly originate and transmit programs. By using coaxial cables instead of air-waves, CATV can bring to subscribers a large section of over-the-air signals plus many additional programs originated for cable television.

The number of educational broadcasting stations is expected to increase as private and government groups continue to expand this medium as an educational tool. The growth of educational television stations, particularly, should increase the number of job opportunities, especially in programming, engineering, and station management.

In addition, job opportunities will result from replacement as openings become available as workers transfer to other fields of work, retire, or die. However, competition for entry level positions will be very keen because of the attraction this field has for young people.

ORGANIZATIONAL BREAKDOWN

Radio-Television Broadcasting

Management

Clerical-Accounting

Sales Merchandising

Programming
- Program Director
- Artists
- Writers
- Director
- Producers
- Talent:
  - News Reporter
  - Staff Announcer
  - Anchorman

Engineering
- Chief Engineer
- Engineers
  - Studio Crew
  - Braodcast Engineers

LOCAL TRENDS, TELEVISION BROADCASTING

The general outlook for the industry at least through the decade of the 70's is one of expansion. There will be employment opportunities in all phases of broadcasting work for qualified individuals who show interest and enthusiasm for the nature of the work involved; however, as is true on the national scene, competition, particularly for announcer positions, will be very keen.

The number and variety of employment opportunities within a given station is largely dependent upon its size. In a small station one individual is usually responsible for a number of functions, whereas specialization is more the norm in the larger stations. Also directly related to the size of the station is the factor of hiring experienced personnel vs. inexperienced personnel. The small stations, and often it is out of necessity, are more willing to provide on-the-job training. The interested student might wish to contact KHET or one of the commercial stations to arrange for an appointment to discuss his possibilities for entry into the field of broadcasting.

Hawaii's educational television station deserves special mention here. KHET is unique among local stations in that the University Board of Regents holds its operating license with the Federal Communications Commission. In terms of employment practices, this means that the station is required to employ student help on a part-time basis to assist in all phases of its operation. For those University students seeking experience in the field, KHET has proven to be an excellent training ground. The station is small and its employees become knowledgeable in a number of areas of TV production, which makes these individuals particularly valuable when they seek employment with the larger, commercial stations.

Effective July 1, 1972, KHET will no longer be under the auspices of the University but will instead be an Educational Television Foundation. The station, however, plans to continue its present hiring practices and will be established in new quarters at the corner of Dole Street and University Avenue. This close proximity to the Manoa Campus contributes to the practicality of hiring part-time student help.

Included in this section are detailed job specifications for a number of entry level positions in the television broadcasting industry. These job specifications have been limited to the two areas of talent and engineering, as it is in these two aspects of broadcasting work that employment opportunity seems to be the greatest.

For the purpose of clarity of understanding, the general category of engineer is given two divisions: broadcast technician and studio crewman. Basically, the technicians hold down control room positions and work mainly with console-type equipment (dials), where the studio crewmen work with equipment in the studio during the production of a show. Coordination between the director in the control room and the talent and crewmen on the floor is the responsibility of the floor manager, who by means of a headset, takes signals and directions from the director and relays them to the appropriate individuals in the studio.

Although a Federal Communications Commission Radiotelephone First Class Operator License is not necessarily a requirement for employment as an engineer, it is strongly recommended that such licensing be obtained if possible. First of all, possession of the first class license serves as an indication of the applicant's technological background and as such would prove particularly valuable for an applicant with minimal experience; and secondly, such licensing is required for operation of the transmitter. It is conceivable, particularly in the smaller stations, that due to scheduling, an engineer not usually fulfilling the position of transmitter attendant might be called upon to operate it.

Other employment opportunities in the field of television broadcasting include general business occupations such as clerical and accounting positions, sales and merchandising-related jobs, and public relations work. These areas, however, are not particular to this one industry and are, therefore, treated more thoroughly in other sections of this manual. The broadcasting industry also offers employment opportunities for copywriters, the preparation for and duties of which are similar to those for copywriters employed in the field of advertising. Graphics artists, photographers, and cinematographers will also find opportunities in television work.

COMMUNICATIONS-TELEVISION

BROADCAST TECHNICIAN
(D.O.T. 194.281 and 782; 957.
282 and 963.168 through .887)

Job Summary

Although studio or production crew members and broadcast technicians are both categorized under the general heading of engineers, their responsibilities are of a different nature. The broadcast technicians fill controlroom positions during the production of a television program. Among the various positions in the control room are the audio man, video tape recorder, transmitter attendant, and technical director or switcher. The broadcast technicians operate equipment to regulate the quality of sounds and pictures being recorded or broadcast and operate controls that switch boardcasts from one camera to another, from film to live programming, or from network to local programs.

Qualifications

1. No minimal educational requirement
2. Average intelligence
3. Interest and enthusiasm
4. Experience

Promotional Opportunities

1. Technical Director
2. Chief, Engineering Dept.
3. Director-Producer
4. Program Director

Union Membership

Broadcast technicians are represented by the International Brotherhood of Electrical Workers, Local 1260.

Current Salary

$752/mo.

Employment Outlook

Favorable through the decade of the 70's

Places of Employment

Commercial and educational television stations

COMMUNICATIONS-TELEVISION

TV NEWS REPORTER
(D.O.T. 159.148)

Job Summary

The TV news reporter is involved with the collection and reporting of local news incidents.

Qualifications

1. No minimal educational background
2. Pleasing appearance and voice
3. Average intelligence
4. Background in journalism or radio or television announcing

Promotional Opportunities

With the background and that evasive quality called "charisma" this individual can conceivably advance to the position of full-time news talent.

Current Salary

$850/mo.

Places of Employment

Commercial and education television stations

Employment Outlook

The outlook for the industry is favorable through the decade of the 70's.

COMMUNICATIONS-TELEVISION

NEWS TALENT (ANCHORMAN)
(D.O.T. 159.148)

Job Summary

News talent is a full-time, on-the-air position with the responsibility of reporting local, national, and international news, sportscasting, and weather reporting.

Qualifications

1. No minimal educational background
2. Average intelligence
3. Pleasing appearance, voice, and personality
4. "Charisma"

Promotional Opportunities

Within one station the individual can conceivably work into the position of program director. By changing to larger stations he may increase his viewing audience, popularity, and salary potential. Employment with a national network is also a possibility. Technique and appeal, in other words, that evasive quality of charisma, is all-important for advancement in this field.

Current Salary

The salary range is extremely wide, but $1,200 a month might be an approximate starting pay.

Employment Outlook

The outlook for the industry is favorable through the decade of the 70's.

Places of Employment

Commercial and educational TV stations

COMMUNICATION-TELEVISION

STUDIO ASSISTANT/FLOOR MANAGER

(D.O.T. 194.281,282 and 782; 957.
.282 and 963.168 through .887)

Job Summary (Entry Level for Engineer)

Although the position title may vary from station to station, the duties are much the same. The individual assists in the production of a television show. He may work in such areas as lighting, adjustment of microphones, movement of camera dollies, placement of props, or coordination by means of a headset between the director and the floor crew.

Qualifications

1. No minimal educational requirement
2. Average intelligence
3. Interest and enthusiasm

Training

The smaller stations provide on-the-job training for the individual filling this position. Larger stations may require some experience in television production from the individual.

Current Salary

$550/mo.

Union Membership

Broadcast engineers are represented by the International Brotherhood of Electrical Workers, Local 1260.

For further information:

International Brotherhood of
Electrical Workers, Local 1260
2305 So. Beretania St.
Telephone: 847-5341

Dept. of Educational Communications
University of Hawaii
College of Education
Telephone: 944-8260

Also contact may be made directly with the local stations.

COMMUNICATIONS-TELEVISION

STUDIO CREWMAN
(D.O.T. 194.281, 282 and 782
957.282 and 963.168 through .887)

Job Summary

As a member of the production staff the engineer may fill such positions as cameraman, lightman, or floor director/manager, or he may have responsibility for the microphones of the sound effects equipment. The studio crewman is directly involved with the live production of a television show.

Qualifications

1. No minimal educational requirements
2. Average intelligence
3. Interest and enthusiasm
4. Experience

Promotional Opporutnities

With the experience and desire, a studio crewman may advance to the position of director, and conceivably, to the position of program director.

Places of Employment

Commercial and educational television stations

Current Salary

$752/mo.

Employment Outlook

Favorable through the decade of the 70's

Union Membership

Studio crewmen are represented by the International Brotherhood of Electrical Workers, Local 1260.

LOCAL TRENDS-RADIO BROADCASTING

Radio, too, is a highly competitive field, and although there are positions available for qualified individuals, there are recommended procedures to follow to obtain a position in the industry.

Announcers. If the applicant has had no prior experience, a personal connection at the station to which he is applying is extremely helpful. In the case of a disc jockey, the individual must know music, the record industry and the music popular in his geographical area. CASH BOX and BILL BOARD are popular trade journals which would be helpful in this connection. What is called a "spec tape" or "air check tape" is extremely important. It is a type recording of the individual's on-the-air voice and the way in which he coordinates commentary and musical selections. It is recommended that a professional disc jockey help in putting this tape together.

The newscaster applicant needs what is called a voice tape or voice sample. It is also recommended that he practice writing news copy and taping it for presentation when making application for a position.

Experience. On the local scene experience is gained by first working at a small station in order to gain the necessary technique and reputation to move up to the larger stations. If an individual is enrolled at the University of Hawaii as a full-time student, experience can be gained at KTUH. The station operates solely on a volunteer basis and has proven to be a good training ground for individuals desiring entry into a commercial operation.

The Federal Communications Commission Radiotelephone Third Class Operator License is a requirement for employment as an announcer, but it is not too difficult to obtain. Pamphlets detailing the examination requirements can usually be found in electronics shops or perhaps in bookstores or libraries.

An individual considering enrollment in one of the television-advertised schools specializing in the training of disc jockeys should be very careful to ascertain that such training would indeed be necessary. These courses are quite expensive as a rule, and those already in the industry are not sure that the value of such a background has yet been proven.

Student Employment. The industry, particulary the larger stations where the need would be greater, is receptive to the employment of students on a part-time basis. Opportunities are varied depending upon the needs of the station. They may include such jobs as answering the telephone on weekends and giving out sports information to callers as requested or driving a truck for the station to collect "proofs of purchase" from agencies or community groups participating in a station merchandising program (an example of the foregoing would be the KGU Community Service Award merchandising program). Students might also be employed as spotters at local high school sports events, in which case the student sits with the sportscaster in the press box and identifies individual players to aid the sportscaster in making his commentary.

For the most part students are employed at the minimum wage, although this is no hard and fast rule and the salary may vary with the responsibilities of the position.

Radio Broadcasting Technicians/Engineers. Most of the smaller stations do not have an engineer on their payroll but instead contract an independent businessman to do their work. He might conceivably be on a contract basis with several stations.

Larger stations employ their own engineer whose responsibilities include operation, maintenance, and repair of the transmitter and some construction of equipment. A Federal Communications Commission Radiotelephone First Class Operator License is a requirement for this position. It is a good deal harder to obtain than the third class license previously mentioned. A strong background in electronics and perhaps some formal schooling are necessary to pass the examination and become licensed.

The number of positions available in this field is limited. As a rule even the larger stations in Hawaii employ only one engineer for their operations.

Traffic Director. There is no minimum educational requirement for this position. The main function involves the scheduling of commercials and preparation of the daily log. The individual arranges the commercial aspect of the broadcasting day on the basis of the length of commercials and the scheduling desires of the clients. The logs are a requirement of the FCC and must be properly signed by the announcer after each commercial is aired.

Music Librarian. Some of the larger stations employ an individual as music librarian. His responsibilities would include the organization of the station's library of records, listening to and perhaps helping in the selection of music to be aired on the basis of station policy (i.e., a rock station as opposed to a sports-oriented station) and the popularity of music in the station's geographical location. Where this position exists on the local scene, it is usually on a part-time basis and as such is a good opportunity for a student desiring employment.

Copywriter-Continuity Director. Although in theory these would be two separate positions, even the larger stations in Hawaii combine the two functions. The individual works as an extension of both the programming and sales departments of the station. The position involves both clerical work and some original, creative writing. Responsibilities include the preparation of commercial messages, public service announcements, press releases, and in cases where applicable, the responsibility of contacting the station's Citizen of the Day. The individual may prepare the copy in original or simply work from copy prepared in the sales department or by an advertising agency, in which case he would be perusing the material for typographical errors and also timing the length of the commercial.

COMMUNICATIONS-RADIO

ANNOUNCER
(D.O.T. 159.148)

Job Summary

The announcer presents news and live commercial messages, introduces programs, describes sporting events, acts as master of ceremonies, and may perform additional duties such as operating the control board, writing and producing commercials, and writing news and sports copy. Many announcers act as disc jockeys, introducing selections of recorded music and making commentary on other matters of interest to the audience. Much of the commentary is "ad-lib" without the use of a detailed script. An announcer may also specialize in the area of sportscasting or newscasting.

Qualifications

1. Federal Communications Commission Radiotelephone Third Class Operator License.
2. Air-check tape or voice tape
3. Familiarity in the individual's area of specialization, be it music, sports, or current events.

Promotional Opportunities

As the individual gains in technique and experience, he may move from the smaller to the larger stations thereby increasing his earning potential. Within a given station he may move through the ranks to chief announcer or program director, and conceivably, up to the position of general manager of the station.

Working Conditions

Employees work an eight hour day with on-the air schedules varying from three, four, to six-hour shifts during the day. The midnight shift is six hours at most stations and goes from midnight to six a.m.

Current Salary

$600/mo.

Places of Employment

AM and FM radio stations in the State of Hawaii

Union Membership

Not all stations are unionized. This fact is largely dependent upon the size of the station (number of employees) and the amount of profit made. As a rule, wages are higher in a unionized station. Union membership where applicable would be with the Allied Federation of Television and Radio Artists (AFTRA).

Further Information

Department of Speech Communications
George Hall, University of Hawaii
Honolulu, Hawaii
Telephone: 944-8202

PRINTING OCCUPATIONS

NATIONAL TRENDS

Printing is a leading industry and one of our chief means of communication. Employment opportunities are found principally in the printing, publishing, and allied industries, but employment in the field is also found in government agencies and private firms that do their own printing, such as banks, insurance companies, and manufacturers of paper products and metal containers.

The printing process is basically a means of transferring ink impressions of words, numerals, symbols, and photographs or other illustrations to paper, metal, or other materials. The most commonly used methods of printing are letterpress, lithography, gravure, flexogrphy, and screen printing.

The largest division in terms of employment is newspaper printing and publishing. Commercial or job printing establishments comprise the second largest division in terms of employment. Commercial printing firms produce a great variety of materials such as advertising matter, letterheads, business cards, calendars, catalogs, labels, maps, and pamphlets.

A continued rise in the volume of printed material is expected because of population growth, the increasingly high level of education, the expansion of American industry, and the trend toward greater use of printed materials for information, packaging, advertising, and various industrial and commercial purposes. However, employment in skilled printing trades is not expected to increase significantly because of the continuing introduction of laborsaving technological changes in printing methods.

LOCAL TRENDS-NEWSPAPER PRINTING AND PUBLISHING

There are three major occupational areas in the newspaper publication industry: the editorial staff, which is comprised of those employees involved with the gathering and reporting of news; the circulation department, which involves mailroom employees and truckers as well as home and street sales district managers and carriers; and the craft occupations, which are those employees working in the actual production end of the industry.

The outlook for the industry as a whole is favorable through the next decade because of population increase, circulation within that population, and advertisements solicited. However, this favorable outlook is particular to the editorial and circulation aspects of the industry rather than to the craft occupations. Technological advances in machinery and computerization of some of the phases of production work point to a status quo employment outlook for craftsmen. Openings in the crafts will occur primarily as a result of the need to replace experienced workers who retire, die, or transfer to other fields of work.

Entry into the editorial phase of newspaper work as a reporter is facilitated by a university background in journalism or liberal arts. Preference is given to one with a journalism background because requirements for that major usually involve a certain amount of laboratory work and summer work directly related to newspaper reporting and feature article writing. At the University of Hawaii a major in journalism is offered by the Department of English.

Both the Honolulu Advertiser and the Honolulu Star-Bulletin offer a cadet or trainee summer program. College students are employed for a ten-week period during the summer in order to gain experience in the industry. Each paper hires approximately eight to ten such students each summer. Smaller papers may take on one or two students in a similar capacity; however, it is at the two major Honolulu papers that the training program is formal in nature.

The field is still open for the individual lacking in the above-described areas; however, he must face the realization that he will be up against stiff, and in most cases, experienced competition. An individual who lacks experience in reporting but who has the interest and enthusiasm should make every attempt to write up on his own what he would consider to be newsworthy copy. Concentration should be limited to areas of familiarity--in other words, the sports enthusiast should limit his writing to sports features in order to assure the presentation of his best work when making application for a position as reporter.

In addition to those occupational areas for which detailed job specifications have been provided herein, there are employment opportunities for truckers (as indicated in the opening paragraph), general business office personnel, and advertising personnel. However, these occupations are not particular to the newspaper publication industry and are therefore treated more thoroughly in other sections of the manual.

DISTRICT MANAGER, HOME AND STREET SALES

Job Summary

The district manager, within his assigned district, is responsible for the delivery of newspapers to subscribers' homes (in the case of the home deliveries manager) or to the street racks and street salesmen (in the case of the street sales manager). In both cases he has a number of carriers working under his supervision. It is his responsibility to deliver the papers to agreed upon spotting corners where they are picked up and circulated by the area carriers. He deals directly with the subscribers himself in the event of customer complaints.

Qualifications

1. No minimum educational requirement
2. Average intelligence
3. Experience in newspaper mailroom work is desirable
4. Ability to deal pleasantly with the public

Promotional Opportunities

Home Delivery or Street Sales Supervisor

Circulation Manager

Current Salary

$232/week

Employment Outlook

Slowly on the rise due to the increase in population and newspaper circulation

Union Membership

This class of employees is represented by the International Longshoremen's and Warehousemen's Union (ILWU), Local 142.

Working Conditions

This can be a taxing position, particularly for those district managers working for morning publications, as early morning delivery deadlines must be met. In addition to working with the public in the case of complaints regarding deliveries, upon occasion the district manager may find that in addition to his regular duties he must fill in for a carrier who is unable to deliver to his route. The carriers are independent businessmen and as such are supposed to find their own replacements in the event of illnesses, etc.,; however, this is not always possible.

MAILER

Job Summary (Entry-level position for district manager)

Mailroom activities involve the counting, bundling, typing, labeling, and dispatching of newspapers. This is a desirable background for the position of district manager; however, it is not an absolute requirement.

Qualifications

1. No minimum educational background
2. Average intelligence

Current Salary

$217/week

COMMUNICATIONS-PRINTING

PHOTOENGRAVER
(D.O.T. 971.381 and .382)

Job Summary

Photoengravers make metal printing plates of illustrations and other copy that cannot be set in type. There are various areas of specializations within the job category; however, the required apprenticeship involves adequate training in all phases of the photoengraving process before an individual can so specialize.

Qualifications

Completion of photoengraver apprenticeship, which has the following requirements

1. 16 years of age
2. preference given to high school graduates

Promotional Opportunities

There is a very limited career ladder for the photoengraver. He may advance to the position of foreman; however, this advancement is directly contingent upon seniority.

Employment Outlook

No increase in the total number of these craftsmen is expected; however, there will be a limited number of openings because of the need to replace those who retire, die, or change jobs.

Working Conditions

Newspaper publication is an around-the-clock operation. Day shifts are awarded on the basis of seniority; however, for those working night shifts there is a night differential in pay.

Apprenticeship

The period of apprenticeship is five years, during which time the employee is trained in all phases of the photoengraving process under the supervision of qualified journeymen.

Salary during apprenticeship is based on a percentage of the journeyman's wage and is directly related to length of time on the job. During the first year of employment the apprentice makes 55 percent of the journeyman's wage. This increases throughout his apprenticeship, and during the last half of his fifth year he is making 95 per cent of the journeyman's wage.

For further information regarding the apprenticeship program for photoengravers, contact the Lithographers and Photoengravers International Union, Local 201.

Current Salary

$242/week

Union Membership

Photo-engravers are represented by the Lithographers and Photoengravers International Union, Local 201.

COMMUNICATIONS-NEWSPAPER

PRINTER
(D.O.T. 650.582, 654.782,
973.381)

Job Summary

This is a generalized job title used in relation to all categories of composing room work. It is in the composing room that copy is set in type, proofed, and checked for errors. Machine and handset type, and other materials, such as photoengravings, are assembled there and prepared for the pressroom.

Qualifications

Completion of printer's apprenticeship, which has the following requirements:

1. Sixteen years of age
2. Preference given to high school graduates

Promotional Opportunities

Limited in this craft area. Advancement to the position of foreman is contingent upon seniority.

Employment Outlook

The total number of positions in this craft area is expected to decrease due to technological advances. However, there will be a very limited number of openings because of the need to replace those retiring, or who have died or changed jobs.

Working Conditions

Newspaper publication is a 24-hour-a-day operation. Day shift work is awarded on the basis of seniority; however, there is a pay differential for those working the less desirable night shifts.

Current Salary

$235/week

Union Membership

Printers are represented by the Honolulu Typographical Union, Local 37.

Apprenticeship

During the four-year apprenticeship, the employee is trained in all phases of composing room work. Salary during the apprenticeship is based on a percentage of the journeyman's wage. During the first six months the figure is 60 percent, and during the fourth and final year he earns 90 percent of the journeyman's wage.

For further information regarding apprenticeship program, contact: Honolulu Typographical Union, Local 37.

COMMUNICATIONS-NEWSPAPER

REPORTER
(D.O.T. 132.268)

Job Summary

The reporter collects and analyzes facts about newsworthy events by interview, investigation, or observation, and writes newspaper stories conforming to prescribed editorial techniques and format. He may specialize in one type of story, such as sports events, fires, accidents, political affairs, court trails, or police activities. When he is not assigned to a specific beat, he is known as a general-assignment reporter.

Qualifications

1. Proven ability to write newsworthy copy
2. Intellectual capability
3. The following are desirable though not mandatory:
   - --Bachelor's degree, preferably in journalism
   - --prior experience either on a college publication or through part-time summer work

Promotional Opporutnities

As the reporter gains in experience, he can conceivably move in either of two directions: remain as a writer and develop his skills in that area or move to a desk job and on up the managerial career ladder.

Employment Outlook

The outlook is good for a qualified individual with top-notch reporting skills. This outlook is particularly favorable for a local individual.

Current Salary

$200/week

Union Membership

Reporters are represented by the Hawaii Chapter of the American Newspaper Guild.

For further information:
Department of English
Kuykendall Hall
College of Arts and Sciences
University of Hawaii
Honolulu, Hawaii
Telephone: 944-8368

STEREOTYPER
(D.O.T. 975.782)

Job Summary

The stereotyper makes duplicate press plates for letterpress printing. He operates the machinery to produce the newspaper page in mat form which is in turn cast into the curved metal plate used on the large web-rotary presses.

Qualifications

Completion of web pressman-stereotyper apprenticeship, which has the following requirements:

1. 16 years of age
2. preference given to high school graduates

Promotional Opportunities

Advancement possibilities are limited in this craft area. Advancement to the position of foreman is contingent upon seniority.

Employment Outlook

Due to technological advances, no increase in the number of these craftsmen is anticipated. However, there will be a limited number of openings because of the need to replace those who retire, die, or change jobs.

Working Conditions

Newspaper publication is an around-the-clock operation requiring night shift work. There is a pay differential for the night shift employees. Day shift work is awarded on the basis of seniority.

Union Membership

Stereotypers are represented by the Honolulu Printing Pressmen and Assistants' Union No. 413.

Current Salary

$235/week

Apprenticeship

During the four-year period of apprenticeship the employee is trained under the supervision of journeymen in all areas of the stereotyping process as well as in all phases of the operation of the web-rotary printing presses. The apprentice spends one year of training in the stereotyping process and three years of training in the operation of the presses.

Salary is based on a percentage of the journeyman's wage and is directly related to length of time on the job. During his first six months, an apprentice makes 55 percent of the journeyman's wage, and 95 percent during the final six months.

Further information regarding apprenticeship may be obtained from the Honolulu Printing Pressmen and Assistants' Union, Local 413.

WEB PRESSMAN
(D.O.T. 651.782, .885
and .886)

Job Summary

The pressman operates the web-rotary presses used by the larger newspapers.

Qualifications

Completion of web-pressman--sterotyper apprenticeship, which has the following requirements:

1. 16 years of age
2. preference given to high school graduates

Promotional Opportunities

Advancement possibilities are limited in this field. Advancement to the position of foreman is contingent upon seniority.

Employment Outlook

No increase in the total number of these craftsmen is anticipated; however, there will be a limited number of openings because of the need to replace those who retire, die or change jobs. This unfavorable outlook is largely due to the continued improvements in speed and efficiency of printing presses.

Working Conditions

Newspaper publication is an around-the-clock operation requiring night shift work. However, there is a pay differential for these less desirable shifts. pressrooms are unavoidably noisy, and ear protectors, if not required by law, are strongly recommended.

Union Membership

Web-pressmen are represented by the Honolulu Printing Pressmen and Assitants' Union, Local 413.

Current Salary

$235/week

Apprenticeship

The period of apprenticeship is four years, during which time the employee is trained in all phases of press operation in addition to all phases of the stereotype process. During apprenticeship he works under the supervision of qualified journeymen. The apprentice spends approximately three years in the area of press operation and one year of training in the various phases of the stereotyping process.

Salary is based on a percentage of the journeyman's wage and is directly related to length of time on the job. During the first six months of employment, the apprentice makes 55 percent of the journeyman's wage, and during the final six months this percentage figure increases to 95 percent.

Further information regarding apprenticeship may be obtained directly from the Honolulu Printing Pressman and Assistants' Union, Local 413.

LOCAL TRENDS-COMMERCIAL JOB PRINTING INDUSTRY

The employment possibilities within a job printing establishment range from the usual administrative, clerical, and sales occupations, which are covered in detail elsewhere in this manual, to production art and creative art and the printing craft occupations in the composing room, bindery, and press room. It is these craft occupations which will be described in detail in this section of the manual. Information pertaining to creative or commercial artists may be obtained by referral to the sections on advertising or related art occupations.

As far as the employment outlook for the printing craft occupations is concerned, it follows closely the national picture. There are limited opportunities expected on the entry level.

Locally the commercial job printing industry employs approximately 1,000 people. There are about 60 commercial establishments per se; however, that figure increases considerably when trade shops (such as bindery plants) and in-company printing departments are taken into consideration. The four major employers, each employing in the neighborhood of sixty to seventy-five workers, are Edward Enterprises, Inc.; Fisher Printing Co., Inc; Star-Bulletin Printing Co., Inc.; and Tongg Publishing Co., Ltd. There are ten to fifteen firms that employ in the neighborhood of twenty-five workers each, and much smaller operations where only three or four workers are found.

Union representation is as a rule found in the larger operations, with the smaller firms operating as open shops. However, at this writing two of the four major firms mentioned above are open-shop operations. The beginning employee learns the printing craft through either a registered apprenticeship program (union shop) or a training program developed by the employing firm (open shop). In both cases the employee spends four to five years in such training before qualifying as a journeyman. The two major unions representing printing craftsmen employed in job printing establishments are the Honolulu Typographical Union, Local 37, and the Lithographers and Photoengravers International Union, Local 201.

Both McKinley and Farrington High Schools offer vocational education courses in printing, and such a background is considered valuable for the job applicant. Leeward Community College is proposing a program of study in graphic arts; however, at the time of this printing, funding had not yet been obtained. The interested student should follow up on this possibility as it is anticipated that the program will be initiated within the next few years.

For further information regarding printing craft occupations, refer to the section of this manual dealing with Training Programs, Apprenticeship. The student might also wish to contact one of the major commercial printing establishments in Honolulu and arrange for an appointment to discuss his posibilities of entry into the field.

COMMUNICATIONS-PRINTING

BINDERY WORKER
(D.O.T. 977.781)

Job Summary

The bindery worker performs general bindery work as needed on light machines or handwork such as stitching, collating, gluing, tipping, addressing, drilling, padding and other similar operations as required.

Qualifications

1. High school education
2. Vocational education background in printing training is desirable.
3. Completion of training or apprenticeship program

Promotional Opportunities

1. Binery Foreman
2. Production Manager
3. General Plant Manager

Training

A beginning employee with a minimum of experience is required to serve as a trainee for a period of four years. Beginning salary is set at 60 per cent of the craftman's wage.

Current Salary

$4.75/hr.

Places of Employment

Commercial printing establishment
Bindery plant

Employment Outlook

A limited number of openings are expected due to the need to replace those who retire, die, or change jobs.

COMMUNICATIONS-PRINTING

CAMERA OPERATOR
OFFSET PREPARATION
(D.O.T. 972.382)

Job Summary

The camera operator performs all camera operations to produce negatives, veloxes, and brownline proofs; handles art work, photographs, or copy to be shot to the size required.

Qualifications

1. High school education
2. High school vocational education background in printing training is desirable.
3. Completion of the appropriate apprenticeship or training program

Promotional Opportunities

1. Camera-stripping-platemaking Foreman
2. Production Manager
3. General plant manager

Places of Employment

Commercial printing business

Employment Outlook

Favorable

Salary

$4.75/hr.

Training Program

The beginning employee with a minimum of experience in the craft is required to complete a four-year training program. Salary, upon entry, is set at 60 percent of the craftman's wage.

COMMUNICATIONS-PRINTING

HAND COMPOSITOR
(D.O.T. 973.381)

Job Summary

The hand compositor hand sets type as required. He checks, oils, and maintains all pieces of equipment used in day-to-day operations; makes up type forms for letterpress and provides type reproduction proofs to the art/paste-up departments; handles galley proofs; and stores type forms and cuts.

Qualifications

1. High school graduate
2. High school vocational education background in printing training is desirable.
3. Completion of the appropriate apprenticeship or training program

Promotional Opportunities

1. Composing Room Foreman
2. Production Manager
3. General Plant Manager

Places of Employment

Commercial or job printing establishments

Current Salary

$4.75/hr.

Employment Outlook

A limited number of openings are foreseen due to the need to replace those retiring or who die or change occupations.

Training Program (or apprenticeship program where applicable)

The beginning employee with a minimum of experience in the craft occupation is required to complete a four-year training program. Salary is based upon a percentage of the craftman's wage, and upon entry this figure is set at 60 percent.

COMMUNICATIONS-PRINTING

LETTERPRESSMAN

Job Summary

Letterpress operations include printing, numbering, die cuttings, scoring and perforating.

Qualifications

1. High school education
2. High school vocational education background in printing training is desirable.
3. Completion of the appropriate apprenticeship or training program

Promotional Opportunities

1. Letterpress Foreman
2. Production Manager
3. General Plant Manager

Places of Employment

Commercial or job printing establishments

Current Salary

$4.75/hr.

Employment Outlook

A limited number of openings are foreseen due to the need to replace those retiring or who die or change occupations.

Training Program (or apprenticeship program where applicable)

The beginning employee with a minimum of experience in the craft is required to complete a four-year training program. Salary, upon entry, is set at 60 percent of the craftman's wage.

COMMUNICATIONS-PRINTING

MACHINE COMPOSITOR
(D.O.T. 650.582, 654.782, 973.381)

Job Summary

The work consists of producing the required machine type composition. The machine compositor sets type lines of machine composition and checks, oils and maintains typesetting machine.

Qualifications

1. High school graduate
2. High school vocational education background in printing training is desirable.
3. Completion of the appropriate apprenticeship or training program

Promotional Opportunities

1. Composing Room Foreman
2. Production Manager
3. General Plant Manager

Places of Employment

Commercial or job printing establishments

Current Salary

$4.75/hr.

Employment Outlook

A limited number of openings are foreseen primarily due to the need to replace those retiring or who die or cahnge occupational fields.

Training Program

The beginning employee with a minimum of experience in the craft occupation is required to complete a four-year training program as a trainee. His salary is based on a percentage of the craftman's wage, and upon entry this figure is set at 60 percent.

COMMUNICATIONS-PRINTING

PAPER CUTTER
(D.O.T. 977.781)

Job Summary

The paper cutter handles paper inventory and cuts basic paper stock for press and does finish trimming.

Qualifications

1. High school education
2. Vocational education background in printing training is desirable.
3. Completion of training or apprenticeship program

Promotional Opportunities

1. Bindery Department Foreman
2. Production Manager
3. General Plant Manager

Places of Employment

Commercial printing establishment
Bindery plant

Current Salary

$4.75/hr.

Employment Outlook

A limited number of openings are foreseen due to the need to replace those who retire, die, or change occupations.

Training Program

The beginning employee with a minimum of experience is required to serve as a trainee for a period of four years. Beginning salary is set at 60 percent of the craftsman's wage.

Job Summary

The paste-up artist performs copy paste-up, minor art work, touch-up, and ruling; sizes photographs to fit windows in art work and prepares complete camera-ready art as required; works closely with salesmen in preparing art work and provides proofs when requested.

Qualifications

1. High school graduation
2. High school art background as well as vocational education printing, training is desirable.
3. Completion of training or apprenticeship program

Promotional Opportunities

Commercial Artist in Creative Design Department

Current Salary

$4.75/hr.

Places of Employment

Commercial printing business
Advertising agency

Employment Outlook

Favorable

Training Program

The beginning employee with a minimum experience is required to serve as a trainee for a period of four years. Beginning salary is set at 60 percent of the craftsman's wage.

COMMUNICATIONS-PRINTING

PRESS HELPER
OFFSET PRESS DEPARTMENT
(D.O.T. 651.782)

Job Summary

The press helper assists pressman in oiling press, paper handling, and other related work as called for by the pressman.

Qualifications

1. High school education

2. Vocational education background in printing training is desirable

Promotional Opportunities

1. Pressman
2. Press Foreman
3. Production Manager
4. General Plant Manager

Places of Employment

Commercial printing establishments

Training Program

After proving his potential, the press helper may move into the appropriate training program to become a qualified pressman. He remains as a trainee for a period of four years, during which time his salary is based on a percentage of the craftman's wage. Upon entry this figure is 60 percent.

Current Salary

$1.95/hr.

Employment Outlook

A limited number of openings are expected due to the need to replace those who retire, die, or change occupations.

Working Conditions

The pressroom operates twenty-four hours per day, and night shift work would therefore be necessary.

STRIPPING-PLATEMAKING
(D.O.T. 971.381, 972.781)

Job Summary

The stripper-platemaker prepares composed negative flats and press plates.

Qualifications

1. High school education
2. High school vocational education background in printing training is desirable.

Promotional Opportunities

1. Stripping-Platemaking Foreman
2. Production Manager
3. General Plant Manager

Places of Employment

Commercial printing establishments

Current Salary

$4.75/hr.

Employment Outlook

A limited number of openings are expected due to the need to replace those who retire, die, or change jobs.

Training Program

The beginning employee with a minimum of experience is required to serve as a trainee for a period of four years. Beginning salary is set at 60 percent of the craftman's wage.

TELEPHONE AND TELEGRAPH INDUSTRY

NATIONAL TRENDS

In spite of an anticipated strong growth in the amount and types of service, total employment is expected to grow only moderately. Technological improvements such as electronic switching equipment are permitting more calls to be made without any assistance from operators. Clerical workers and many of the skilled craftsmen also are being affected by technological changes expected to restrict the total number of workers required for efficient service.

Nearly three out of ten workers in the industry are craftsmen and foremen and about the same proportion are operators. Craftsmen install, repair, and maintain telephones, cables, switching equipment, and message-accounting systems. The duties of the operators include making telephone connections; assisting customers on specialized types of calls; and giving telephone information.

Many other occupations in the industry, such as clerical, administrative, scientific, and custodial jobs, are found in other industries as well. They are described in detail elsewhere in this manual in the sections covering individual occupations.

See also: PUBLIC UTILITIES

LOCAL TRENDS-TELEGRAPH INDUSTRY

The employment outlook in the telegraph industry is somewhat more favorable than that foreseen for the telephone industry. However, because the telegraph industry is a relatively small employer locally, this favorable outlook will not necessarily mean a larger number of positions available. The opportunities, though in small numbers, will be there, however, as the industry is expanding in Hawaii.

The industry provides three services: (1) telegram service to the general public, (2) Telex equipment installation in business firms. The installation of teleprinters enabling subscribing firms to have instantaneous written communication with subscribers in other areas of the world and (3) lease circuits, in which case a client leases a communications circuit from one point to another. A new employer on the local scene will be Western Union of Hawaii, Inc. (no affiliation with Western Union International). At the time of preparation of this handbook the firm was awaiting licensing by the Public Utilities Commission. Western Union of Hawaii, Inc., will offer Telex service (switch data exchange service) both to the Mainland and within the State of Hawaii.

There are three employers in Hawaii at the present time. They are: RCA Global Communications, Inc.; International Telephone and Telegraph Corporation (ITT); and Western Union International, Inc. RCA Global is the largest of the three and employs approximately seventy-five to one hundred people in all phases of operations.

An operations breakdown would comprise of the following areas: sales, clerical and accounting occupations, messengers, communications technicians, and cable operators. Detailed descriptions of the latter three occupations follow in this section.

COMMUNICATIONS-TELEGRAPH

CABLE OPERATOR

Job Summary

There are three areas of responsibility within this job classification, and the cable operator works in all three areas on a rotating schedule. The three areas are: (1) receiving messages by telephone from the client, (2) outbound transmission, and (3) receipt of inbound messages. When taking a message from a client over the phone, the operator simultaneously types said message on a special form and at the same time obtains the necessary information for billing purposes. The message form is given to the operator responsible for transmission. This function is computerized, and the message is sent by a system of codes to the particular telegraph company office nearest the destination of the message. The operator responsible for inbound messages makes contact by phone with the destination party and/or gives the message to the messenger for hand delivery.

Qualifications

1. No minimum educational requirements
2. Pleasant telephone voice and manner
2. Typing ability

Promotional Opportunities

1. Chief Cable Operator

Places of Employment

1. RCA Global
2. ITT
3. Western Union International

Current Salary

$3.39 to $5.27/hr. with a 15% cost of living allowance in some cases.

Employment Outlook

Industry is steadily growing and outlook is favorable.

Union Membership

After 30 days of employment, union membership is required in the American Communications Association, an affiliate of the International Brotherhood of Teamsters.

COMMUNICATIONS-TELEGRAPH

COMMUNICATIONS TECHNICIAN

Job Summary

The technician usually works in either of two areas. which are (1) the installation of Telex equipment (teleprinters) for subscribing business firms and (2) the maintenance and repair of the equipment in the local employing office headquarters.

Qualifications

1. Technical ability
2. Successful completion of an examination prepared by the employing firm--The examination tests the applicant's knowledge of the equipment used in the industry.
3. Experience in the communications field with one of the military services is of great help to the applicant.

Promotional Opportunities

The Communications Technician may, with the necessary experience and qualifications, move up to the position of Chief Communications Technician.

Places of Employment

1. Western Union International, Inc.
2. RCA GLobal Communications, Inc.
3. ITT
4. Western Union of Hawaii, Inc.

Current Salary

$3.91 to $5.89/hr., with, in some cases, a 15% cost of living allowance.

Employment Outlook

Good for a qualified individual, having prior experience, as in the case of the Communications Technicians in the armed services

Union Membership

After 30 days of employment, union membership is required in the American Communications Association, an affiliate of the International Brotherhood of Teamsters.

COMMUNICATIONS-TELEGRAPH

MESSENGER

Job Summary

The messenger hand delivers telegram messages.

Qualifications

Driver's license

Promotional Opportunities

Minimal, although in a larger operation a messenger could conceivably work up through the organization. In Hawaii, although it is as a rule a full-time position, employees remain on the job for a relatively short length of time.

Places of Employment

1. RCA GLobal
2. ITT
3. Western Union International
4. Variety of local businesses

Working Conditions

Out-of-doors

Current Salary

$2.24 to $3.03/hr. with a 15% cost of living allowance in some cases.

Employment Outlook

Because of the turnover in this position, opportunities are continually available.

CONSTRUCTION

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CONSTRUCTION

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- Apprentice Sheetmetal Worker
- Welder (Structural)
- Apprentice Welder (Structural)

V. Bibliography

NATIONAL TRENDS

In covering national trends in the construction arena, four primary areas are covered:

1. Construction Activity from 1970 to 1980
2. Occupational Outlook in Construction
    a. Attrition Rate
    b. Improved Technology
    c. Differential Employment
3. Implications of 1 and 2

Construction Activity

A total moderate increase in employment in the construction area is expected due primarily to the rapid rise in construction activity, both residential and non-residential. Many factors account for this increased activity. The most important and significant are listed below:

1. Anticipated large increases in population and households for the next decade
2. The relatively low level of new housing construction witnessed in the past decade
3. Due to concern over the environment increased spending for facilities to reduce air and water pollution due to expected growth of the economy
4. Increased construction of industrial plants, commercial establishments, office buildings, shopping centers and banks
5. Anticipated increases in personal and corporate income

With all of the above factors considered, manpower requirements in construction will rise from 3.3 million in 1970 to approximately 4.6 million by

1980, based on the Bureau of Labor Statistics Bulletin 1672, "Patterns of U.S. Economic Growth."

LOCAL TRENDS

The construction industry in Hawaii has been for the past decade and will continue to be one of the basic indicators of economic strength for our State, where more than 25,000 workers (including those employed in making construction materials) are employed. In 1969 the industry generated enough completed construction activity to account for 20% of Hawaii's total personal income. According to the model established by the Department of Planning and Economic Development, the total value of construction completed will increase 82% between 1970 and 1980. Construction ranks third in absorption of employment growth, indicating it absorbs 16% of the employment growth in the State. All of these facts and figures can be boiled down to one fairly accurate statement: the construction industry contributes significantly to Hawaii's economy, both directly, through employment; and indirectly, through boosting other business growth. In looking at the construction industry in Hawaii, three primary areas will be covered:

Residential Construction
Commercial and Industry Construction
Government Construction

Residential Construction

All indicators point toward residential construction as the "in" place for the construction industry in Hawaii for the next decade. Two major factors will boost this factor.

1. The increase in Hawaii's population is expected to grow from 773,600 in mid-1970 to 897,147 by mid-1980. This population will not only necessitate land to live on but a place to live in as well.

2. The demand for low and moderately priced housing is still very high, indicating that the present need will no doubt increase in the future.

Increased need in housing means an increased need for experienced and qualified workers to build them. All three levels of government have indicated that the need is there, and that housing is one of the most critical issues they face, by their strong commitments toward alleviating the problem. Examples of this commitment are:

1. Federal FHA commitments in the areas of single family and multi-family housing
2. State commitments in the form of the Housing Financial Assistance Program; the Rent Supplement Program; the Downpayment Reserve Plan; Teacher Housing and Turnkey Housing

Although Oahu has been overbuilt in terms of multi-family, high-priced dwellings in the form of condominiums, the field is wide open for residential low and middle income housing.

On the neighbor islands, in contrast, all types of residential dwellings are expected to expand. Many of the contractors in Hawaii indicate that this is where the new move will be for construction in general. Although it is difficult to predict accurately what the outlook will be for the next decade, within the next few years neighbor island construction will undoubtedly set a new record in single as well as multi-family residences.

Modular housing is a local trend in residential construction designed to lower housing costs. Three companies, Alcan-LSI Hawaiian Homes, California Hawaiian Land Corp., and Homes Hawaiian Unlimited are all constructing low-income modular housing at the present time at Campbell Industrial Park. Modular Housing could indicate a whole new direction for residential construction in Hawaii.

Commercial and Industrial Construction

There is a current slowdown in this area of construction in Hawaii due to the overbuilding of hotels and condominiums. Very little activity is expected in this area in the early part of the decade, although construction will probably resume in the mid-1970's when increased tourism and populations that can afford the high-priced condominiums arrive on the scene. Part of the construction force presently engaged in the hotel construction could be shifted to residential construction, keeping down unemployment in this area of the industry.

Other categories of commercial and industrial building are expected to remain stable or increase on both Oahu and the Neighbor Islands. Employment in the construction industry will no doubt follow this trend fairly accurately. In this area, employment will be centered on the building of manufacturing plants, office buildings and mercantile buildings, as well as additions and alterations to existing buildings. A local trend in office buildings is one away from "institutional" office buildings to every major Hawaii-based corporation desiring to have its own new headquarters. This will also result in increased construction. The AMFAC twin towers is just one example of this trend.

Governmental Construction

City and County, State and Federal governments have always provided a substantial source of employment for the construction trades in Hawaii, primarily by sub-contracting their bids out to private contractors in the industry. Although the number of bids initiated by the State of Hawaii is expected to decline, the Federal government is expected to undertake several large military housing projects which will provide countless jobs for the construction trade. The City and County bids are expected to remain fairly stable.

Occupational Outlook

1. Attrition Rate

Whether or not construction activity sees a boom in the next decade, as is indicated above, tens of thousands of job openings in the construction field will result from the need to replace experienced workers who transfer to other fields of work, retire, or die. Retirement and deaths alone, according to recent projections, will provide more than 70,000 job openings in the buidling trades each year through the 1970's.

2. Improved Construction Technology

A big factor to consider in projecting employment in the construction trades is that although construction itself will be booming, improved technology in several areas will mean that employment itself will not be increasing at as fast a rate. An example of some of the technological advances which will limit construction employment follow:

1. Increased use of prefabricated components, which are installed as complete units at the job site for almost all types of construction projects.
2. "Module building" units, including complete rooms or buildings, are available in all standard sizes.
3. Power handtools, such as shock resistant, cordless, electric powertools, which will improve worker efficiency.
4. Improvements in the size, speed, durability and mobility of large cranes and construction machines, including bulldozers and scrapers.
5. New improved construction materials such as lightweight, durable plastics, and new adhesives which will eliminate conventional fasteners.

3. Differential Growth

When looking at occupational growth in the construction industry, a third and final factor should be considered: net growth within each of the construction trades is expected to grow differentially. That is, not all construction trades will see the boom in employment that others will. For instance, the expansion of new residential employment expected for the 1970's will primarily be an upsurge in employment for those trades which work primarily on houses: bricklaying, carpentry, electricity and roofing. The projected rise in non-residential construction will mean increased employment for operating plumbers and pipefitters. Cement and concrete workers, who are employed in both residential and non-residential construction, will not be affected as much by the differential employment trends.

Implications

All available data indicate that there will be a tremendous expansion in the construction arena in the next decade, and an almost equal increase in employment in that arena. But where are the new qualifed, skilled, craftsmen going to come from? To meet the needs of the indicated expansion, local, state and federal programs must work jointly to make more effective use of their current qualified labor force and to attract trained and qualified additional workers to meet increasing needs. This will require concerted effort to look critically at some of our current training programs and methods of employment to see if they are really in line with what the future indicates.

TRAINING PROGRAMS IN CONSTRUCTION

> *It should be the right of every student to receive training in a school that teaches him a way to earn a living. We need to develop programs to restore pride in craftsmanship and to promote the dignity of skilled labor*
>
> -- Philip M. Polivchak, NAHB Manpower Director

High School Level Programs

The Department of Education, through its Vocation Education Division, offers a basic curriculum for those interested in pursuing a career in construction-related industry. There has been some indication recently that various training programs within each union are pushing for more comprehensive training at the high school level.

As it stands presently, the curriculum in the high schools for those interested in construction-related occupations is as follows:

1. Basic Requirements to Graduate: English, Social Studies, Physical Education, Health
2. Basic Courses: Career Development in Technical Science, Woods, Mechanical Drawing, Plane Geometry
3. In Major: Technical Sketching, Technical Interpretation, Building Construction Technology I and II, Cooperative Work Experience
4. Electives: Speech Fundamentals, Family Living, Economics

It is suggested that the student contact his counselor regarding the extent of current or proposed programs in construction-related occupations in his particular high school.

Community College Level Programs

Apprenticeship: According to Willard H. Loomis, Administrator of the

State Apprenticeship Division, apprenticeship dates back as far as Roman times and can be traced through the England of Queen Elizabeth's time and Colonial America to its present day conception as something very valuable in our vocational education system. In today's terminology, an apprentice is a "worker who is covered by a written agreement and learns to become a skilled craftsman through planned, supervised work on the job coupled with related classroom instruction. He works with and learns from a skilled craftsman. He will be supervised by skilled craftsmen--known as journeymen or masters."

In Hawaii, the apprenticeship program for the construction trades is run jointly by the State Apprenticeship Division, the Community College System, and the various training divisions of the unions concerned. A certain number of hours is spent on the job and in related schooling at one of the community colleges. One of the primary advantages of the program is that it is a system of "learning while earning while doing." This means that after a probationary period the apprentice receives a percentage of journeymen's wages which increases as he increases his training hours. Another advantage is that the apprentice is eligible for various benefits, such as medical and health benefits and life insurance while he is on the job, paid by his employer.

Entrance requirements and application procedures differ with each apprenticeship program as do the journeyman's wages and the benefits for which he is eligible. Contact the following for further information:

1. State Apprenticeship Division
   825 Mililani Street
   Honolulu, Hawaii 96813
   Telephone: 548-7631

2. The State Employment Service
   1040 South King Street
   Honolulu, Hawaii 96814
   Telephone: 548-2211

3. The training coordinator of the union whose trade appeals to the applicant. These contacts are listed at the end of each job specification in the construction field.

4. Honolulu Community College for information concerning what "related studies" are relevant for that particular trade:

Honolulu Community College
847 Dillingham Boulevard
Honolulu, Hawaii 96817
Telephone: 874-2161

In addition to the State Apprenticeship program, the Federal Government also sponsors its own apprenticeship program in the construction field. Called the Pearl Harbor Apprenticeship Program, it centers primarily around on employment and training in the Pearl Harbor Naval Shipyard. There are no requirements for entrance into the program, but there is a 90-minute qualifying exam which emphasizes arithmetic, blueprint-reading and aptitude and interest for learning in the apprenticeship trades. Persons in the apprenticeship program may apply the training received as an apprentice toward an Associate of Science degree at the Honolulu Community College. To complete the degree requirements, an apprentice will need 15 additional hours of liberal arts, and communication. These hours may be gained at any community college. For further information regarding this program and what fields it covers, write or phone:

Federal Job Information Center
Federal Building, Room 104
Honolulu, Hawaii 96813
Telephone: 546-5967

Pre-Apprenticeship Programs: Several two-year programs are offered at the community college level in construction-related occupations. These involve, in most cases, pre-apprenticeship or introductory type programs designed to acquaint the individual with the particular area of work. What follows is a brief summary of these programs. For more specific information contact the

Honolulu Community College or the Community Colleges of Maui, Kauai, and Hawaii.

1. Carpentry: This is one of the basic trades of the construction field. Entrance is usually obtained through serving a four-year period of apprenticeship. The Carpentry Department offers this program of introduction, which, when successfully completed, provides an excellent background for those desiring to enter the apprenticeship program. One can graduate with a Certificate of Achievement (61 credits) or an Associate in Science degree (73 credits).

   Length of Program: 2 years

   Offered by: Honolulu Community College
   Hawaii Community College
   Maui Community College
   Kauai Community College

2. Heavy Equipment Maintenance and Repair: This program is designed to develop degrees of proficiency which will allow the student to become employed in industry.

   Cost: $125

   May graduate with a Certificate of Achievement (45 credits) or an Associate of Science degree (67 credits)

   Offered by: Honolulu Community College

3. Industrial Electricity: The curriculum is designed to prepare the student for entry into the Electrical Construction and Maintenance Industry. The student is introduced to and receives practice in the many operations required for the wireman and electrical repairman and troubleshooter.

   Cost: $120

Degrees: Certificate of Achievement (37 credits)

Associate of Science (61 credits)

Offered by: Honolulu Community College

4. Sheetmetal Worker: The curriculum is designed to qualify students for entry into the field of sheetmetal by developing competency in such areas as fabrication processes, air conditioning fabrication.

Cost: $90

Degrees: Certificate of Achievement (47 credits)

Associate of Science (63 credits)

Offered by: Honolulu Community College

Hawaii Community College

Maui Community College

5. Welding Technology: The program is designed to prepare the student for employment as a welder and welding technician. Training is given in both theory and practical skills in the various phases of welding and cutting.

Cost: $50

Degrees: Certificate of Achievement (32 credits)

Associate of Science (60 credits)

Offered by: Hawaii Community College

Honolulu Community College

Maui Community College

Kauai Community College

Other Programs:

1. Engineering Technology: The engineering technology curriculum is a two-year program which leads to an Associate in Science Degree. The curriculum offers several options designed to

prepare the student for a career as an assistant to the professional engineer or surveyor. In addition, a program is offered to prepare the student for pursuing a career as a professional engineer in a four-year college program.

Cost: $75 for first semester, $45 for each one thereafter

Degree: Associate in Science

Offered by: Honolulu Community College

University Level Programs

The University of Hawaii offers an advanced degree in Civil Engineering, issued after an extensive four-year program in various engineering-related curricula. The course work provides a fundamental science-oriented, university education.

Admission requirement: aside from the general admission requirements for the University, civil engineering students must have taken the following in high school:

1. Plane Geometry
2. Two years of algebra
3. Trigonometry

The following are recommended, but not required:

1. Mechanical drawing
2. Physics
3. Solid geometry

For further information regarding the Civil Engineering Program, either write or phone:

College of Engineering
University of Hawaii
2565 The Mall
Honolulu, Hawaii 96822
Telephone: 944-8446

CONSTRUCTION

ASBESTOS WORKER
(D.O.T. 863.381, .781, .884)

Job Summary

An asbestos worker covers pipes, boilers, furnaces, ducts and other related equipment with insulating materials such as cork, felt, asbestos, fiberglass polyurethane, and magnesia. Insulation serves the purpose of retaining heat, preventing heat absorption and controlling dispersion of sound. He uses tools such as trowels, brushes, scissors, sewing palms and heavy-duty needles hammers, saws, pliers and stud-welding guns. He also uses power saws, as well as handtools to cut insulating materials.

Qualifications

1. Knowledge of principles of asbestos work, safety rules, and maintenance of asbestos tools
2. Completion of an extensive apprenticeship program in one of the community colleges involving 8,000 hours of on-the-job training over a period of approximately 4 years
3. On-the-job training should involve some combination of the following work processes:
    a. Commercial: plumbing, heating, air conditioning
    b. Industrial and Process Plant: piping vessels, equipment, etc.
    c. Refrigeration and Low Temperature
    d. Ship Work: piping and equipment
    e. Pre-fabrication: fittings, head covers, and related work

Promotional Opportunities

1. Foreman
2. Shop superintendent
3. Estimator
4. Private Contractor

Current Salary

Journeyman rates: $6.05/hr.

Places of Employment

1. Insulation contractor
2. Maintenance workers in private firms

Employment Outlook

Outlook will show moderate increase in the '70's as construction shows an increase --mainly on outer island and in residential construction

Job Summary (Entry Level Position)

The Apprentice Asbestos Worker works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes associated with asbestos work. These involve Commercial, Industrial, Refrigeration and Process Plant, Ship Work and Pre-fabrication.

Qualifications

1. Evidence of high school graduation (transcripts)
2. Ability to pass State Aptitude Test (GATB) given by the State Employment Service and also examination union training program
3. Character and ability to work well under supervision and with others in the profession

Training Programs

In Hawaii, the primary program for training asbestos apprentices is the State Apprenticeship program. Information regarding the training program for Asbestos Workers can be obtained from:

Mr. Leonard Sebresos, Business Representative
Asbestos Workers Union
707 Alakea Street, Room 206 (after 4 p.m.)
Honolulu, Hawaii 96813
Telephone: 521-6405

Benefits

As an apprentice, the asbestos worker is eligible for medical and dental benefits, life insurance plans and pension eligibility, all of which are paid by the employer while he is an apprentice, and by the union when he reaches journeyman status.

CONSTRUCTION

BRICKLAYER - MASON
(D.O.T. 861.131, .381, .781, .884)

Job Summary

A Bricklayer-Mason constructs walls, fireplaces, chimneys, and other structures from brick. He also works with concrete, precast concrete panels and all types of tile, and installs brick linings of industrial kilns and furnaces. He handles handtools such as trowels, brick hammers, levels, jointers, brick cutting chisels and rules.

Qualifications

1. Knowledge of the principles of bricklaying and masonry, safety rules, and maintenance and repair of bricklaying tools
2. Completion of an extensive apprenticeship program involving 6,000 hours of on-the-job training over a period of approximately 3 years, and 288 hours of related instruction at a community college
3. On-the-job training involves some combination of the following work processes:
    a. Laying of Masonry Units: hollow blocks, bricks, and precast units
    b. Laying of Natural Rocks and Cut Stone: cutting, setting and pointing
    c. General: layout work, maintenance of equipment and other operations related to the bricklaying trade

Promotional Opportunities

1. Foreman
2. Estimator
3. Bricklaying Superintendent
4. Bricklaying Contractor

Places of Employment

1. Building contractors
2. Industrial establishments

Current Salary

Journeyman rates:
$5.99/hr.

Employment Outlook

Favorable developments in construction increase may be offset by new construction techniques which reduce the amount of bricklaying per structure. Locally, outlook is fairly good due to neighbor island expansion and institution of new promotional programs.

Job Summary (Entry Level Position)

An Apprentice Bricklayer works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes associated with bricklaying. These involve Laying of Masonry, Natural Rocks and Cut Stone and General Work such as layout, maintenance of equipment, and other related operations.

Qualifications

1. High school diploma or equivalent work experience
2. Ability to pass State Aptitude Test (GATB) provided by the State Employment Service
3. Character and personality to work well under supervision, take personal responsibility and work well with others

Training Programs

In Hawaii, the primary program for training bricklayer-masons is the State Apprenticeship Program, run jointly by the State and the Bricklayer-Mason Union Training Program. Information regarding the union training program may be obtained from:

Mr. William Eguchi, Business Agent
Bricklayers, Masons and Plasterers Union, Local 1
2305 South Beretania Street, Room 204
Honolulu, Hawaii 96813
Telephone: 955-6644

Benefits

As an apprentice, the bricklayer-mason is eligible for medical, hospitalization, dental and pension plan benefits, all of which are paid by the employer while the individual is an apprentice and by the union when he reaches journeyman status.

CONSTRUCTION

CARPENTER
(D.O.T. 860.281 thru .781)

Job Summary

A carpenter is a member of the largest group of building trades workers who erects the wood framework for buildings, including subflooring, sheathing, partitions, floor joists, studding and rafters. He also installs molding, wood paneling, cabinets, window sashes, door frames, doors, and hardwood, as well as builds stairs and lays floors. He must be concerned with appearance as well as structural accuracy. He uses handtools such as hammers, saws, chisels, and planes, and power tools such as portable power saws, drills, and rivet guns.

Qualifications

1. Knowledge of the principles of carpentry, methods of maintenance and repair of carpentry tools, safety rule
2. Completion of an extensive apprenticeship program involving varying degrees of hours depending on the specialty:
    a. Carpentry: 8,000 hours for approximately 4 years
       576 hours of related schooling
    b. Millwork: 7,000 hours for approximately 3 1/2 years
       144 hours of related schooling
    c. Drywall: 4,000 hours for approximately 2 years
       240 hours of related schooling
3. On-the-job training in carpentry involves some combination of the following work processes:
    a. Layout: exterior and interior
    b. Form Work: wall, column, and stair construction
    c. Form Work: floor and beam construction
    d. Rough Framing: cottage
    e. Outside Finishing

f. Inside finishing

g. Woodworking machinery

h. Hardwood fitting

i. Highway heavy form construction

j. General

Promotional Opportunities

1. Carpenter Foreman
2. General Construction Foreman
3. Self-Employed Contractor

Places of Employment

1. Contracting firms
2. Home building firms
3. Government agencies

Current Salary

Journeyman rates:
$6.20

Employment Outlook

There are greater overall advancement opportunities in carpentry since the carpenter is less specialized than other trades and can fit into almost any expanding construction area. The increase in employment rate will be moderate due to an offset created by technological advances in carpentry.

CONSTRUCTION

APPRENTICE CARPENTER

Job Summary (Entry Level Position)

An Apprentice Carpenter works under the supervision of a skilled journeyman or instructor and receives diversified training and experience in the various work processes associated with carpentry. These involve Layout, Form Work, Rough Framing-Cottage, Outside Finishing, Inside Finishing, Woodworking Machinery, Hardward Fitting, Highway Heavy Form Construction, and General Carpentry.

Qualifications

1. High school diploma desired, but not required
2. Ability to pass National Brotherhood of Carpentry Aptitude Test - no State Aptitude Test required
3. Character and personality to work well under supervision, to take responsibilities when required, and to work well with others involved to complete project

Training Programs

The carpentry program in Hawaii is one of the more sophisticated of the State's Apprenticeship programs. It attempts to train accepted applicants for other job possibilities besides journeyman status. Information regarding the various programs available in the Carpentry field can be obtained from the following:

Carpentry: Mr. Harold DeCosta, Training Administrator
Carpenters Union, Local 745
904 Kohou Street
Telephone: 841-0928

Millwork: Mr. Al Dupont, Training Coordinator
Carpenters Union, Local 745
904 Kohou Street
Telephone: 841-0928

Drywall: Mr. James Wong, Drywall Coordinator
Local 745
904 Kohou Street
Telephone: 841-0928

Benefits

As an apprentice, the carpenter is eligible for dental and medical benefits, as well as life insurance, and pension plan, all paid for by his employer while he is an apprentice and by the union when he achieves full journeyman status.

CONSTRUCTION

CEMENT FINISHER
(D.O.T. 844.884, 852.884)

Job Summary

A Cement Finisher finishes the exposed concrete surfaces on many types of construction projects. These projects range from small jobs, such as the finishing of patios, floors, and sidewalks to work on foundations of large buildings, airport runways, and missle launching sites. His knowledge of materials is essential to the quality of his work. He must be familiar with the characteristics of various concrete mixes and their stability.

Qualifications

1. Knowledge of principles of concrete finishing, safety work, and maintenance of a cement finisher's tools and mixes
2. Completion of an extensive apprenticeship program in one of the community colleges involving 6,000 hours of on-the-job training and a certain number of related hours in general courses on the community college level
3. On-the-job training should involve some combination of the following processes:
    a. Mixing mortar and other related general work
    b. Preparing and pouring concrete
    c. Flat slab finishing: screening, floating and troweling
    d. Window sills, thresholds, stairways and setting single level forms to grade

Promotional Opportunities

1. Foreman
2. Estimator
3. Concrete contractor

Places of Employment

1. General contracting firms
2. Specialty contractors
3. Governmental agencies
4. Self-employed

Current Salary

Journeyman's rates:
$5.99/hr.

Employment Outlook

There will be faster increase in the use of concrete products, prestressed and precast, than in the use of concrete finishers, but the employment outlook is expected to brighten rapidly as more construction firms turn to concrete.

CONSTRUCTION APPRENTICE CEMENT FINISHER

Job Summary (Entry Level Position)

The cement finisher apprentice works with a journeyman or supervisor qualified in the processes of the trade and receives diversified training and experience in all the job processes associated with cement finishing. These involve: Mixing and Mortar, Preparing and Pouring Concrete, Flat Slab Finishing and Window sills, Thresholds, Stairways and setting single level forms to grade.

Qualifications

1. High school graduation or its equivalent
2. Ability to pass State Aptitude Test (GATB) given by the State Employment Service
3. Adequate knowledge of basic skills to pass oral interview
4. Character and personality to work well under supervision, take personal responsibility, and to work well with others

Training Programs

In Hawaii the primary program for training cement finishers is the State Apprenticeship Program, run jointly by the State and the Masons and Plasterers Union Training Program. Information regarding the union training program for Cement Finishers may be obtained from:

Mr. Irwin Kwock, Apprenticeship Coordinator
Business Agent
Masons and Plasterers Union, Local 630
2305 South Beretania Street, Room 204
Honolulu, Hawaii 96814
Phone: 955-6644

Benefits

As an apprentice, the cement mason is eligible for medical, hospitalization, dental and pension plan benefits, all of which are paid by the employer while the individual is an apprentice and by the union when he reaches journeyman status.

CIVIL ENGINEER
(D.O.T. 005.081)

Job Summary

This is basically a professional level position in the construction manpower area. The civil engineer designs and supervises the construction of roads, harbors, airfields, tunnels, bridges, water supply and sewage systems, buildings, and many other types of structures. Many civil engineers are in supervisory or administrative positions ranging from site supervisor to top-level executive positions. Others are engaged in design, planning, research, inspection or maintenance activities. Still others teach in colleges and universities or work as consultants.

Qualifications

1. A Bachelor's degree in Civil Engineering is the generally accepted educational requirement for entrance into engineering positions.
2. Some persons without a degree are eligible to become engineers after long experience in a related occupation, such as draftsman or engineering technician, and some college training.
3. For information concerning 4-year and 2-year training programs in this area, see the Construction Programs section.

Promotional Opportunities

1. Trainee engineer
2. High level technical and administrative positions
3. Top executive positions

Current Salary

Beginning median wages:
$8,300 per year

Places of Employment

1. Governmental agencies
2. Consulting engineering firms
3. Public utilities
4. Educational institutions
5. Independent consultants

Employment Outlook

Continued growth in this area is expected due to increased demand for qualified construction planned in accordance with environmental concerns

ELECTRICIAN
(D.O.T. 821.381; 824.281; 829.281 and .381)

Job Summary

The electrician lays out, assembles, installs and tests electrical fixtures, apparatus, and wiring used in electrical systems which provide heat, light, power, air conditioning, and refrigeration in residences, office buildings, factories, hospitals, schools and other structures. He also installs and connects electrical machinery, electronic control equipment, signal and communication systems. He uses tools such as pliers, screwdrivers, brace and bits, knives, and hacksaws.

Qualifications

1. Knowledge of principles of construction electrician's work, safety rules, and maintenance and repair of an electrician's tools
2. Completion of an extensive apprenticeship program in one of the community college systems which involves 8,000 hours of on-the-job training for a period of approximately 4 years and 144 hours of related training in the community colleges
3. On-the-job training should involve some combination of the following work processes:
    a. Residential: to include service, branch distribution and signal work, and all other work covering complete residential installation
    b. Commercial: to include conduit installation, metal molding, cables, panelboards
    c. Industrial: to include substation, switchboard, bus duct, cable splicing, automatic controls
    d. Specialized work: to include temperature and refrigeration controls, fabrication, assembly and wiring of custom fixtures for specialized lighting jobs, neon sign work
    e. General: to include motor, generator, and appliance repair, store and stock room experience and other work customarily performed by electricians

Promotional Opportunities	Current Salary
1. Foreman	Journeyman rates: $6.37/hr.

Promotional Opportunities con't

2. Superintendent
3. Estimator
4. Electrical contractor

Places of Employment

1. Electrical contractors
2. Self-employed
3. Governmental agencies

Employment Outlook

Trends indicate that once an individual has completed an apprenticeship program, outlook for employment is good. The program itself has a high drop-out rate, however.

See also Utilities: Electrician

CONSTRUCTION APPRENTICE ELECTRICIAN

Job Summary (Entry Level Position)

An apprentice electrician works with journeymen or supervisors and receives diversified instruction and experience in all branches of the electrician's trade necessary to develop a practical skill in the following work processes: Residential, Commercial, Industrial, Specialized Work and General Electrician work.

Qualifications

1. At least 16 years of age
2. High school graduation or equivalent
3. Ability to pass state aptitude test (GATB) given by the State Employment Service
4. Ability to perform adequately in an interview before the Joint Apprenticeship Committee

Training Programs

The primary means of becoming an apprentice electrician is through the State Apprenticeship Program, run jointly by the State and the Training Division of the Electrician's Union. For further information regarding the training program, contact:

Mr. Harry Chikamori, Training Director
Electrician's Union, Local 1186
1316 Kaumualii St.
Honolulu, Hawaii 96817
Telephone: 847-0629

CONSTRUCTION

FLOOR LAYER
(D.O.T. 864.781)

Job Summary

A Floor Layer installs, replaces, and repairs resilient tile, linoleum, and vinyl sheet goods, and carpeting on the floors of residential, commercial, and industrial buildings. He uses tools such as hammers, pry bars, knives, shears, and other cutting devices, measuring and marking tools, such as tape measures, compasses, straight edges, scribes, chalk, and chalklines, notched adhesive trowels, carpet stretching devices and floor rollers.

Qualifications

1. Knowledge of principles of floor laying work, safety rules involved and maintenance and repair of floor-laying tools
2. Completion of an extensive program in apprenticeship in one of the community colleges involving 6,000 hours of on-the-job training for three years and 216 hours of related appropriate schooling at one of the community colleges
3. On-the-job training should involve some combination of the following work processes:
    a. Floor preparation
    b. Fastening: tackless, drill and plug
    c. Padding
    d. Sewing
    e. Carpet Laying: residential and commercial
    f. Binding
    g. Stairs and Capping
    h. Miscellaneous: power machines, etc.

Promotional Opportunities

1. Foreman
2. Installation manager
3. Salesman
4. Estimator
5. Floor installing owner

Current Salary

Journeyman's rate: $6.00/hr.

Places of Employment

1. Floor contractors
2. Retailers
3. Furniture and department stores
4. Large business centers

Employment Outlook

Employment outlook is good as construction increases on the neighbor islands, but little increase is expected on Oahu alone.

Job Summary (Entry Level Position)

An Apprentice Floor Layer works with journeymen or supervisors qualified in the processes of the floor-laying trade to receive experience in the following work processes: Floor Preparation, Fastening, Padding, Sewing, Carpet laying, Binding Stairs and Capping, and Miscellaneous.

Qualifications

1. At least 16 years of age
2. High school diploma not necessary, but desired
3. Ability to pass State Aptitude Test (GATB) given by State Employment Service

Training Programs

In Hawaii the primary program for training floor layer apprentices is through the State Apprenticeship Program, run jointly by the Community College System and the training division of the Floor Layers Union. Information regarding the training program may be obtained from:

Mr. Ken Reyes, Apprenticeship Coordinator
Floor Layers Union
949 McCully Street, Room 7
Honolulu, Hawaii 96814
Telephone: 949-0171

Benefits

As an apprentice, the floor layer is eligible for medical and vacation benefits, but no dental or pension plans are available at this writing.

CONSTRUCTION

GENERAL LABORER
(D.O.T. 809.887; 884.887;
850. through 852.887; and
859 through 862.887)

Job Summary

A General Laborer works on all types of building construction. Work includes the loading and unloading of construction materials at the worksite and the shoveling and grading of earth. He stacks and carries materials, including small units of machinery and equipment.

Qualifications

1. Good physical condition and health
2. Ability to follow simple instructions
3. Little formal training is required

Promotional Opportunities

If he works closely with a craftsman, he may progress to specialized trade craftsman, but this is rare. Other promotional opportunities are minimal.

Current Salary

$5.24/hr.

Places of Employment

1. All types of construction contractors
2. City and county, state, and federal agencies

Employment Outlook

Increases in employment are expected to be slow due to increases in use of mechanized equipment which will take the place of many now employed as general laborers.

(See UTILITIES: General Laborer)

Job Summary (Entry Level Position)

An entry level in this category is essentially the same as the preceding, except that there might be added responsibilities and more difficult job duties as one progresses from entry level laborer to general laborer.

Qualifications

The qualifications are essentially the same as those for a general laborer.

Training Program

Hawaii is unique in that it is one of many states beginning to upgrade the general laborer category to include all types of skills and the use of the latest equipment in construction work. The training program in Hawaii is run jointly by the Construction and General Laborer's Union and the General Contractors Association. It is a six-week program, run near Halawa Jail in the quarry and costs $57 for the entire program. The only qualification is that the applicant be at least 18 years of age. For more information regarding the training program and how to enter, write or contact:

Mr. Clarence Dias, Training Coordinator
Construction and General Laborer's Union, Local 368
P. O. Box 457, Aiea Post Office
Aiea, Hawaii 96701
Telephone: 488-6161

Benefits

As a general laborer, an individual is eligible for medical and dental benefits as well as a pension plan. All of these are taken care of once the individual joins the union.

GLAZIERS AND GLASSWORKERS
(D.O.T. 865.761)

Job Summary

Glaziers and Glassworkers cut, fit and install plate glass, ordinary window glass, mirrors, and special items such as leaded glass panels. They cut the glass to size or use pre-cut glass, and install structural glass to decorate building fronts, walls, ceiling and partitions. They use handtools such as glass cutters, putty knives and power tools such as cutting and grinder tools.

Qualifications

1. Knowledge of principles of glazier and glass work, safety rules, and maintenance of glazier and glassworker tools
2. Completion of an extensive apprenticeship program in one of the community colleges involving 8,000 hours of on-the-job training for a period of approximately 2 1/2 years worth of related instruction at a community college
3. On-the-job training should involve some combination of the following work processes:
    a. storage, handling and identification of glass and aluminum
    b. fabrication of all types of glass
    c. fabrication of aluminum
    d. installation of glass
    e. installation of aluminum
    f. layout and job planning
    g. general: maintenance of tools and equipment and other work performed by journeyman

Promotional Opportunities

1. Foreman
2. Draftsman
3. Private contractor

Current Salary

Journeyman's rate: $6.50/hr.

Places of Employment

1. Glazing contractors
2. Governmental agencies
3. Private furniture or ship-building firms

Employment Outlook

Outlook is extremely bright in this field due to the increased use of glass in both new buildings and in the modernization of old types. Locally, firms are looking for qualified applicants.

Job Summary (Entry Level Position)

An Apprentice Glazier works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the work processes associated with glazier work. These involve Storage, Fabrication of Glass and Aluminum, Installation of Glass and Aluminum, Layout and General Maintenance Rules.

Qualifications

1. At least 16 years of age
2. High school diploma not necessary, but desired
3. Ability to pass union aptitude test
4. Ability to make a good impression in a personal interview
5. Character and ability to work well under supervision and with others to get the job done

Training Programs

In Hawaii, the primary program for training glazier apprentices is the State Apprenticeship program, run jointly by the Honolulu Community College system and the Training Division of the Glaziers Union. Information regarding the training program for Glaziers and Glassworkers can be obtained from:

Mr. Danny Pacheco, Business Finance Secretary
and member of JAC Glaziers and Glassworkers Union Local 1889
1001 Dillingham Boulevard, Room 317
Honolulu, Hawaii 96817
Telephone: 847-0658

Benefits

As an apprentice, the glazier worker is eligible for medical, dental, sick leave, paid vacations, and holidays, and also a pension plan, all of which are paid by the employer while the worker is an apprentice, and by the union when he reaches journeyman status.

Job Summary (Entry Level Position)

An Apprentice Glazier works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the work processes associated with glazier work. These involve Storage, Fabrication of Glass and Aluminum, Installation of Glass and Aluminum, Layout and General Maintenance Rules.

Qualifications

1. At least 16 years of age
2. High school diploma not necessary, but desired
3. Ability to pass union aptitude test
4. Ability to make a good impression in a personal interview
5. Character and ability to work well under supervision and with others to get the job done

Training Programs

In Hawaii, the primary program for training glazier apprentices is the State Apprenticeship program, run jointly by the Honolulu Community College system and the Training Division of the Glaziers Union. Information regarding the training program for Glaziers and Glassowrkers can be obtained from:

Mr. Danny Pacheco, Business Finance Secretary
Glaziers and Glass Workers Union
1001 Dillingham Boulevard, Room 317
Honolulu, Hawaii 96817
Telephone: 847-0658

Benefits

As an apprentice, the glazier worker is eligible for medical, dental, sick leave, paid vacations, and also a pension plan, all of which are paid by the employer while the worker is an apprentice, and by the union when he reaches journeyman status.

CONSTRUCTION

IRONWORKER (Structural and
Reinforcing)
(D.O.T. 801.131, .134, .281, .381,
.781, .884; 809.130, .131, .134,
.380.381, .781, .884, .887 and
869.883)

Job Summary

An Ironworker erects, assembles, or installs fabricated metal products mainly in industrial, commercial, and large residential buildings. He may also rig heavy construction machinery and deliver the machinery to the new site. He may install steel stairs in, or add window guards to existing buildings. He remodels existing structures and does repair work, such as replacement of metal bridge parts.

Qualifications

1. Knowledge of skills which comprises the ironworking trade, including safety rules and maintenance and repair of tools used
2. Completion of an extensive program of apprenticeship in one of the community colleges involving:
    a. Structural: 6,000 hours of on-the-job, and 144 related schooling
    b. Reinforcing: 5,000 hours of on-the job, and 144 related schooling
3. On-the-job training should include some combination of the following work processes:
    1. Structural:
        a. Rigging: cranes, derricks, land rigs, cable splicing
        b. Erecting: bolting, riveting, jacking, fitting, hooking, signaling, and sheathing
        c. Layout: mark off from pattern, blueprints and templets
        d. Fabrication: assembling and power machine operation
        e. Welding: acetylene, electric, cutting, burning and chipping
        f. Ornamental Installation: hand rails, sash, metal partitions, curtain walls, gratings, grills, and metal cages
        g. General: maintenance, care of tools
    2. Reinforcing:
        a. Fabrication: layout, cutting, bending
        b. Erection: curved forms, deck and beams, panel and wall forms and stair forms
        c. Welding and burning
        d. Rigging: cranes, derricks, land rigs, signaling
        e. Post tensioning

Promotional Opportunities

1. Journeyman
2. Foreman
3. Superintendent
4. Ironworker contractor

Places of Employment

1. General contractors
2. Steel companies
3. Governmental agencies

Current Salary

Journeyman rates: $6.60/hr.

Employment Outlook

A rapid rise in employment is anticipated due to the increase in construction activity and the increased use of structural steel in smaller buildings. Some new technological advances may limit employment somewhat, such as prefabricated pieces.

Job Summary (Entry Level Position)

An Apprentice Ironworker works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all of the work processes generally associated with ironworkers. These involve:

Structural: Rigging, Erecting, Layout, Fabrication
Welding, Ornamental Installation, and General

Reinforcing: Fabrication, Erection, Welding and burning,
Rigging, and Post Tensioning

Qualifications

1. At least 16 years of age
2. High school diploma or its equivalent
3. Ability to pass State Aptitude Test (GATB) given by State Employment Service
4. Character and personality to work well with others and under supervision

Training Program

In Hawaii, the primary method of becoming an ironworker is through the State Apprenticeship Program, run jointly by Community College system and the training division of the union concerned. For information regarding the training program and how to enter, either write or call:

Mr. Kazumoto Muramatsu, Business Agent
49 South Hotel Street, Room 310
Ironworkers Union Local 625
Honolulu, Hawaii 96813
Telephone: 533-1639

CONSTRUCTION

LATHERER
(D.O.T. 842.781)

Job Summary

A Latherer installs the support backings on which plaster, stucco, or concrete materials are applied. These supports are usually either metal lath or a gypsum lath to which the plaster easily adheres. He also installs wire mesh reinforcement in all inside angles and corners to prevent structural cracking and installs the metal studs and framework for metal interior partitions which receive lath and plaster or gypsum board. Tools of the trade include measuring rules and tapes, drills, hammers, chisels, hacksaws, shears, wirecutters, boltcutters, punches, pliers, hatchets, stapling machines, and power actuated fastening.

Qualifications

1. Knowledge of the principles of lathing, safety rules, and maintenance of lathing tools and their repair
2. Completion of an extensive program of apprenticeship in one of the community colleges, involving 6,000 hours of on-the-job training for approximately 3 years, and 432 hours of related studies in the Honolulu Community College system
3. On-the-job training should involve some combination of the following work processes:
    a. handling of tools and materials of trade
    b. installation of gypsum lath
    c. wall furring
    d. metal lathing

Promotional Opportunities

1. Foreman
2. Lath contractor

Current Salary

Journeyman's rate: $6.65/hr.

Places of Employment

1. lathing and plastering contractors
2. outside construction industry in lath backing for display materials

Employment Outlook

Outlook will be good with expansion on outer islands. Moderate increase is expected, due to increase in construction which will more than offset competition by drywall.

CONSTRUCTION APPRENTICE LATHERER

Job Summary (Entry Level Position)

An Apprentice Latherer works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the work processes associated with Latherer work. These involve the handling of tools, installation of gypsum lath, wall furring and metal lathing.

Qualifications

In Hawaii, the primary program for training latherer apprentices is the State Apprenticeship Program, run jointly by the Community College System and the Training Division of the Latherers and Plasterers Union. Information regarding the training program can be obtained from:

Mr. Richard Fonsica
Business Agent
Latherers Union
1173 20th Avenue
Honolulu, Hawaii 96816
Telephone: 732-0914

Benefits

As an apprentice, the latherer is eligible for medical, life insurance, pension plan and welfare, all of which are paid by his employer while he is an apprentice, and by the union when he reaches journeyman status.

OPERATING ENGINEER
(D.O.T. 850.782 through .887;
851.883 and .887; 852.883; 853.782
and .863; 859.782 and .883)

Job Summary

The Operating Engineer operates and maintains various types of power-driven construction machinery. These machines include power shovel, cranes, derricks, hoists, pile drivers, concrete mixers, paving machines, trench excavators, bulldozers, tractors and pumps. He is often identified by the type of machinery operated or work performed: for example, craneman, bulldozer operator, derrick operator or heavy equipment mechanic.

Qualifications

1. Knowledge of the fundamentals of operating engineering, the safety rules involved, and the repair and maintenance of tools
2. Completion of an extensive apprenticeship program in operating engineering which involves 4,000 hours of on-the-job training over a period of approximately 3 years, and 288 hours of related instruction at one of the community colleges
3. On-the-job training should involve some combination of the following work processes:
    a. Universal equipment: hoists, shovels, cranes, and related
    b. Grading and paving equipment
    c. Plant Equipment: material mixing and crushing
    d. Setting grade stakes: reading plans and instructions
    e. Welding and cutting

Promotional Opportunities

1. Foreman
2. Superintendent
3. Operating engineer contractor

Current Salary

Journeyman rate: $6.64/hr.

Places of Employment

1. General contractors
2. Utility and manufacturing firms
3. Governmental agencies
4. Self-employment

Employment Outlook

Employment is expected to increase at a rapid rate during the 70's due to the increase in construction activity and the increased use of construction machinery. Improvements in machinery labor-saving devices may limit employment somewhat.

Job Summary (Entry Level Position)

An Apprentice Operating Engineer works under a trained journeyman or supervisor and receives diversified and related education and experience in the field of operating engineering. The process of training usually involves some combination of the following work processes: universal equipment, grading and paving, plant equipment, setting of grade stakes, and welding and cutting.

Qualifications

1. at least 16 years of age
2. no high school diploma required
3. ability to pass aptitude test furnished by the union
4. ability to work well with others and under supervision

Training Program

In Hawaii, the primary program for training operating engineers is the State Apprenticeship program, run jointly by the Community College System and the training office of the union. For information regarding the program and how to enroll, either write or phone:

Mr. Bob Skidgel, Training Coordinator
Operating Engineers Union, Local 3
2405 South Beretania Street
Honolulu, Hawaii 96814
Telephone: 949-0085

The NEW YORK TECHNICAL INSTITUTE offers a brief introductory program in Heavy Equipment Maintenance Preparation and Theory of Earth Moving.

Tuition: Full time--30 hrs. per week for 50 weeks at $42 a week
Part time--15 hrs. per week for 100 weeks at $21 a week

Books and Equipment: not over $125 plus tax

Entrance requirements: must pass a Mechanical Comprehension Test

For further information, write or phone:

Mr. Raleigh G. Dougherty, President
New York Technical Institute
1275 Dillingham Boulevard
Honolulu, Hawaii 96817
Telephone: 841-5827

Benefits

As an apprentice the operating engineer is eligible for medical benefits, life insurance and retirement benefits, all of which are paid for by his employer while he is an apprentice and by the Operating Engineer's Union once he reaches journeyman status.

CONSTRUCTION

PAINTER
(D.O.T. 840.131, .381, .781, .884, and .887 and 841.781)

Job Summary

A painter prepares the surfaces of buildings and other structures and then applies paint, varnish, enamel, lacquer, and similar materials to these surfaces. He must be skilled at handling brushes and other painting tools in order to apply paint thoroughly, uniformly and rapidly to any type of structure. He uses spray guns, paint rollers, and when doing scaffolding work, he often uses "swing stages" and a "bosun chair."

Qualifications

1. Knowledge of principles of painting, safety rules involved plus repair and maintenance of a painter's tools

2. Completion of an extensive painting apprenticeship program in one of the community colleges involving 6,000 hours of on-the-job training for approximately 3 years and 288 hours of related schooling

3. On-the-job training should involve some combination of the following work processes:

    a. Preparation of surfaces: sandpapering, pore filling, and spackling
    b. Brush Work: priming, painting, staining, shellacking and varnishing
    c. Roller Painting and Staining
    d. Spray Gun Painting and Staining
    e. General: ladders and staging, mixing and matching of colors, wall covering, taping, cleaning and maintenance of tools and equipment, sandblasting

Promotional Opportunities

1. Foreman

2. Estimator

3. Superintendent

4. Painter-decorator contractor

Current Salary

Journeyman rate: $6.25/hr.

Places of Employment

1. Construction contractors
2. Maintenance and repair contractors
3. Governmental agencies

Employment Outlook

Moderate increase in the 70's due to expected increase in construction activity, especially on outer islands and in residential construction. Improved paints and techniques may limit employment and make it easier for "amateurs" to do their own work without professional aid.

APPRENTICE PAINTER

Job Summary (Entry Level Position)

An Apprentice Painter works under the supervision of a qualified journeyman or instructor and receives diversied training and experience in all the job processes associated with painting work. These involve Preparation of Surfaces, Brush Work, Roller Painting and Staining, Spray Gun Painting and Staining, and General Work.

Qualifications

1. At least 16 years of age
2. High school diploma desired, but not necessary
3. No aptitude test required; strictly on a first-come, first-served basis
4. Character and ability to work well with others to complete a job, and to work well under qualified supervision

Training Program

In Hawaii, the primary program for training painter's apprentices is the State Apprenticeship Program, run jointly by the Community College System and the Training Division of the Painters Union. Information regarding the training program and how to enroll can be obtained from:

Mr. Sueo Nakamura, Training Coordinator
2305 South Beretania Street, Room 201
Painters Union, Local 1791
Honolulu, Hawaii 96814
Telephone: 941-0991

Benefits

As an apprentice, the painter is eligible for health and welfare benefits as well as medical and dental plans on HMSA, loss of income and a pension plan, all paid for by the employer while he is an apprentice and by the union once he reaches journeyman status.

CONSTRUCTION

PLASTERER
(D.O.T. 842.381 and .781)

Job Summary

A Plasterer applies a plaster coating to interior walls and ceilings to form a fire resistant and relative sound-proof surface, which may then be decorated with paint or wallpaper covering. He also applies more durable cement plaster or stucco to exterior walls, and forms and casts ornamental designs in plaster. In recent years plasterers have been making increasing use of machines that spray plaster on walls, ceiling, and structural sections by buildings.

Qualifications

1. Knowledge of principles of plasterer work, safety rules involved, and repair and maintenance of plasterer tools
2. Completion of an extensive apprenticeship program in one of the communnity colleges, which involves 8,000 hours of on-the-job training over a period of approximately 4 years, and 288 hours of related schooling
3. On-the-job training should involve some combination of the following work processes:
    a. Use and Handling of Trade Tools
    b. Properties and Handling of Materials and Mixtures
    c. Application of Scratch and Brown Coat
    d. Alignment of Walls and Beams
    e. Application of White Coat and Sand Finish
    f. Installation of Acoustical Plaster and Stucco, and Acoustical Tile, Cork, and similar materials
    g. Use of Machines to Apply and Finish Plaster

Promotional Opportunities

1. Foreman
2. Superintendent
3. Estimator
4. Plasterer contractor

Current Salary

Journeyman Rate: $6.55/hr.

Places of Employment

1. Construction contractors
2. Alteration contractors

Employment Outlook

A moderate increase is expected in employment due to the great expansion seen for the construction industry, and an increased demand for versatility in plastering techniques. Outlook may be limited because of the use of drywall which can be installed by craftsmen other than plasterers.

Job Summary (Entry Level Position)

An Apprentice Plasterer works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes associated with plastering work. These involve Use and Handling of Tools, Materials and Mixtures, Application of Scratch, Brown and White Coats and Sand Finish, Alignment of Walls and Beams, Installation of Acoustical Plaster, Stucco and Tile Cork and Use of Machines to Apply and Finish Plaster.

Qualifications

1. At least 16 years of age
2. High school diploma or equivalent
3. Ability to pass state aptitude test (GATB) given by State Employment Service
4. Ability to function adequately in an interview session
5. Character and ability to work well with others and to work well under supervision

Training Program

In Hawaii, the primary program for training plasterers is the State Apprenticeship Program, run jointly by the Community College System and the Training Division of the Plasters Union. Information regarding the training program and how to apply for it can be obtained from:

Mr. William Eguchi, Business Agent
2305 South Beretania Street, Room 204
Plasters Union, Local 1
Honolulu, Hawaii 96814
Telephone: 944-6644

Benefits

As an apprentice, the plasterer is eligible for medical, hospitalization, HMSA, loss of income and pension benefits, all of which are paid for by the employer while he is an apprentice and by the union when he reaches journeyman status.

CONSTRUCTION

PLUMBER AND PIPE FITTER
(D.O.T. 862.381)

Job Summary

Plumbers and pipefitters install pipe systems that carry water, steam, air, or other liquids or gases needed for sanitation, industrial production or other uses. They also alter and repair existing pipe systems and install plumbing fixtures, appliances, and heating and refrigerating units. Tools of the trade include wrenches, reamers, drills, braces and bits, hammers, chisels, saws, and other handtools. Powertools include hydraulic pipe benders, gas or acetylene torches, welding, soldering and brazing equipment.

Qualifications

1. Knowledge of principles of plumbing and pipefitting work, safety rules, and maintenance and repair of plumbing and pipefitting tools
2. Completion of an extensive apprenticeship program in one of the community colleges involving 10,000 hours of on-the-job training over a period of approximately 5 years, and 860 hours of related schooling
3. On-the-job training should involve some combination of the following work processes:
    a. Installation of Cast Iron Piping for soil, waste and vents
    b. Installation of threaded sanitary drainage piping
    c. Installation of hot and cold water piping
    d. Finish work: position and connection of fixtures
    e. Maintenance and repair work: plumbing installations, operation and maintenance of complete repair service and kit
    f. Pipefitting: pipefitting, sprinkle fitting, welding, down spouts and leaders, pipe work for temperature conditioning
    g. General: pipe sleeves, inserts for hangers, storing pipe, fixtures, and other materials of trade

Promotional Opportunities

1. Foreman
2. Plumbing and pipefitting contractor
3. Superintendent

Places of Employment

1. Plumbing and pipefitting contractors
2. Self-employed contractors
3. Maintenance personnel in private industry

Current Salary

Journeyman rate: $6.70/hr.

Employment Outlook

Excellent outlook for employment in the 70's due to the projected increase in construction, the trend toward more bathrooms per dwelling, the increased need for plumbing techniques in chemical and atomic energy industries. Employment may be slightly curtailed by prefabricated plumbing fixtures.

Job Summary (Entry Level Position)

Apprentice Plumbers and Pipefitters work under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes generally associated with plumbing and pipefitting work. These may include: Installation of Cast Iron Piping, Threaded Sanitary Drainage Piping and Hot and Cold water Piping, Finish Work, Maintenance and Repair Work, Pipefitting and General.

Qualifications

1. At least 16 years of age
2. High school diploma required
3. Ability to pass state aptitude test (GATB) given by State Employment Service
4. Ability to pass Joint Apprenticeship Committee test involving mechanical and math aptitudes
5. Ability to work well with others and under supervision

Training Program

In Hawaii, the primary training program for apprentice plumbers and pipefitters is the State Apprenticeship program run jointly by the Community College System and the Training Division of the Plumbers and Pipefitters Union. Information regarding this program may be obtained from:

Mr. Edward Hashimoto, Training Coordinator
Plumbers and Pipefitters Union, Local 675
2959-A Koapaka Street
Honolulu, Hawaii 96817
Telephone: 847-1107

Benefits

As an apprentice, the plumber-pipefitter is eligible for life insurance ($10,000), medical and dental plans (75% paid), temporary disability insurance, health and welfare, paid vacation and a recently approved pension plan for which he is eligible after 25 years of service and can receive $800 a month. This is paid for by the employer while he is an apprentice, and then by the union once he reaches journeyman status.

CONSTRUCTION

ROOFER
(D.O.T. 804.281; 843.844; and 866.381)

Job Summary

A Roofer applies composition roofing and other materials, such as tile and place, to the roofs of buildings. He also waterproofs and dampproofs walls and other building surfaces.

Qualifications

1. Knowledge of principles of roofing work, safety rules involved, and maintenance and repair of any roofing tools used
2. Completion of an extension program of apprenticeship in one of the community colleges involving 4,200 hours of on-the-job training over a period of approximately 3 years and 144 hours of related schooling
3. On-the-job training usually involves some combination of the following work processes:
    a. Care, use and handling of tools
    b. Composition of tar and asphalt
    c. Preparation of roof surfaces for covering
    d. Application of pitch and other materials
    e. Spreading of gravel
    f. Installation of slate, tile, and terra cotta
    g. Dampproofing and waterproofing structures

Promotional Opportunities

1. Foreman
2. Superintendent
3. Roofing contractor

Places of Employment

1. Roofing contractors
2. Self-employment
3. Governmental agencies

Current Salary

Journeyman rate: $6.00/hr.

Employment Outlook

Trend is toward rapid increase in employment due to increase in construction. New techniques in lifetime of roofs and nail appliers may limit expansion somewhat.

Job Summary (Entry Level Position)

The Apprentice Roofer works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes associated with roofing work. These may involve: Care and use of tools, Composition of Materials, Preparation of Surfaces, Application of Materials, Spreading of Gravel, Installation of Slate Tile and Terra Cotta, and Dampproofing and Waterproofing Structural Techniques.

Qualifications

1. At least 16 years of age
2. Ability to pass short qualifying exam provided by the union
3. Ability to function well in interviewing session
4. Characteristics to work well with others and under supervision

Training Program

In Hawaii, the primary means of training to become a roofer is with the State Apprenticeship Program, run jointly by the Community College System and the training division of the Roofers Union. For more information regarding the operation of the program, write or call:

Mr. Sam Mokuahi, Apprenticeship Coordinator
Roofers Union, Local 221
2024 North King Street, Room 204
Honolulu, Hawaii 96817
Telephone: 847-5757

Benefits

As an apprentice, the roofer is eligible for health and welfare, medical and dental plans and pension plan benefits, all of which are paid by the employer, and then by the union once he has reached journeyman status.

CONSTRUCTION

SHEETMETAL WORKER
(D.O.T. 804.281 and .884)

Job Summary

A sheetmetal worker fabricates and installs ducts used in ventilating, air-conditioning, and heating systems. He also fabricates and installs a wide variety of other products made from tin metal sheets, such as roofing and siding, partitions, store fronts, and metal framework for neon signs.

Qualifications

1. Knowledge of principles of sheetmetal work safety rules, and maintenance of sheetmetal tools and their repair
2. Completion of an extensive apprenticeship program in one of the community colleges involving 10,000 hours of on-the-job training over a period of 5 years, and 800 hours of related schooling
3. On-the-job training should include some combination of the following work processes:
    a. General Sheetmetal: layout, fabrication, assembly and installation of building components
    b. Air-conditioning and Ventilation: layout, fabrication, and installation of ducts and ventilators for temperature control
    c. Exhaust and Blow Pipe Work: layout, fabrication, assembly and installation of blow pipe and exhaust ducts
    d. Kitchen Equipment: layout, fabrication, assembly and installation of canopies, hoods, sinks, counters, railings and similar custom jobs

Promotional Opportunities

1. Foreman
2. Superintendent
3. Sheetmetal contractor
4. Experienced workers have great mobility outside of construction industry itself

Current Salary

Journeyman rate: $6.80/hr.

Places of Employment

1. Installation firms
2. Construction contractors
3. Roofing contractors involved in metal roofing (residential)
4. Governmental agencies
5. Self-employment

Employment Outlook

Stable increase in employment locally, due to expansion of construction industry, particularly residentially and on the other islands. Pre-fabrication is not likely to affect outlook as much as other trades since most sheetmetal work is custom made.

Job Summary

The Apprentice Sheetmetal Worker works under the supervision of a qualified journeyman or instructor and receives diversified training and experience in all the job processes associated with sheetmetal work. These involve General Sheetmetal Work, Air-conditioning and Ventilation, Exhaust and Blow Pipe Work, Kitchen Equipment, etc.

Qualifications

1. At least 16 years of age
2. High school diploma desired but not required
3. Ability to pass the state aptitude test (GATB) given by State Employment Service
4. Character and personality needed to work with others and under supervision

Training Program

In Hawaii, the primary means of training to become a sheetmetal worker is through the State Apprenticeship Program, run jointly by the Community College Systems and the Training Division of the Sheetmetal Union. For information regarding the training program, contact:

Mr. John Hashimoto, Training Coordinator
Sheetmetal Workers Union, Local 293
666 Kohou Street
Honolulu, Hawaii 96817
Telephone: 841-0307

CONSTRUCTION

WELDER-STRUCTURAL
(D.O.T. 810 through 819.887)

Job Summary

A structural welder plans and lays out work from drawings, blueprints, or other written specifications. He has knowledge of the welding properties of steel metals, and alloys and determines the proper sequence of work operations for each job and welds all types of joints held in flat, vertical, horizontal and overhead positions.

Qualifications

Since welding is a basic skill which is involved in many work trades associated with building, such as carpentry, refrigeration, auto mechanics, sheetmetal, etc., the qualifications for entrance into the trade are generally flexible, according to what union the individual joins. In most cases, the individual interested in welding would join either the Ironworkers Union or the Pearl Harbor Apprenticeship Program. Qualifications for the former are listed under "Ironworkers--Structural and Reinforcing" and for the latter under the Construction Training Programs Section.

Employment as a Welding Technician or Welder's Helper is a possibility after completion of a two-year program in Welding at a community college. Usually a small percentage follow this path after community college, with the majority (70 to 75%) going on toward an apprenticeship program with the appropriate union. The welding program in the community colleges is discussed in detail under the Training Programs Section.

Promotional Opportunities

1. Welding technician
2. Inspector
3. Foreman
4. Welding contractor

Current Salary

Depends on what particular trade the individual joins. Check current salaries of other building trades, particularly sheetmetal workers.

Places of Employment

1. Construction contractors
2. Manufacturing industries

WELDER-STRUCTURAL (cont'd)

Employment Outlook

Outlook is generally excellent, particularly in other Pacific areas such as American Samoa, Guam, and Saipan, and also on the neighbor islands.

Job Summary (Entry Level Position)

This is entirely dependent on what particular trade the individual joins with his welding abilities. Check each of the other building trades to see what their respective apprenticeship program involve.

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CONSUMER AND HOMEMAKING RELATED OCCUPATIONS

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CONSUMER AND HOMEMAKING RELATED OCCUPATIONS

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III. Bibliography

CONSUMER-RELATED OCCUPATIONS

The broad spectrum of consumerism spans the entire occupational market. Every individual who is gainfully employed has someone as the user of his commodity or service. The general public is the consumer of the services of a state tax clerk just as much as a housewife is the consumer of the food purchased in a grocery store. All fifteen occupational clusters treated in this manual are, therefore, consumer-related. This cluster will focus on consumer protection occupations, a rapidly expanding area. Business is becoming more and more conscious of consumer problems. Not only is the purchasing public entitled to quality goods and services, but consumers more readily patronize reputable merchants. Quality satisfies customers and increases profits.

Local businesses are hiring or appointing consumer protection agents and supporting staff whose sole responsibility is customer satisfaction. The majority of jobs, with the exception of clerical help, require advanced degrees and/or social service experience. One's formal education would preferably include psychology and sociology, as well as business. These employees are called upon to deal with a variety of people of different backgrounds in what are often pressure situations.

Many consumer problems arise from a lack of knowledge about the product. The field of consumer education is expected to expand as well.

Government has and will continue to hire individuals in consumer protection on the Federal, State and local levels. These employment opportunities will increase, but probably not to the same extent as in the private business sector.

Information about Consumer Protection and Related Occupations:

Better Business Bureau
677 Ala Moana
Honolulu, Hawaii
Telephone: 531-8131

Bureau of Weights and Measures
Department of Agriculture
State of Hawaii
1428 So. King St.
Honolulu, Hawaii 96813
Telephone: 941-3078

Consumer Protection
Officer of the Governor
State of Hawaii
P.O. Box 3767
Honolulu, Hawaii 96811
Telephone: 535-5995

Federal Trade Commission
333 So. Queen Street 6th Floor
Honolulu, Hawaii 96813
Telephone: 537-9200

Food and Drug Administration
U.S. Government
1481 So. King St. Room 432
Honolulu, Hawaii 96814
Telephone: 955-0379

Legal Aid Society of Hawaii
200 No. Vineyard Blvd.
Honolulu, Hawaii 96817
Telephone: 536-4302

Office of Ombudsman
Iolani Palace Grounds
Honolulu, Hawaii
Telephone: 531-0284

Private Businesses
1. Consumer Protection Agent
2. Customer Service Specialist

State Regulatory Agencies
1010 Richards
Honolulu, Hawaii
Telephone: 548-7505

U.S. Department of Agriculture
335 Merchant St. Rm. 343
Honolulu, Hawaii 96813
Telephone: 546-3131

U.S. Postal Service
Federal Building
Honolulu, Hawaii 96813
Telephone: 546-5621

HOMEMAKING-RELATED OCCUPATIONS

The proportion of workers in private household employment has consistently dropped while the need for all sorts of home-related services has increased as more and more women have taken jobs outside the home and single men and young women workers have set up their own households. Then, too, we are finding new needs among specific segments of the population--the aged, the very young, the mentally retarded, the culturally and educationally deprived, and the poor.

These circumstances have created on enlarged whole areas of employment, for example, all the needs for service created by a rising population of elderly persons. Many of the aged would not have to be institutionalized if they could have a variety of services in their homes--their meals prepared, their shopping done, their homes cleaned and cared for, a companion for a few hours a day, or someone to get them to the doctor's office or a clinic and home again. In the past, a few families were fortunate enough to find a combination housekeeper-companion to do all these things. But there is no reason why they could not be done by a number of specialists.

Another field where there are growing opportunities is that of child care. Today a large percentage of the mothers in Hawaii are employed on a full-time basis. More adequate child care and development facilities are needed.

Important as it is to meet the needs for home and personal services, careful consideration must be given to the people who supply them. If promising career ladders and lattices are created, there is less likelihood that many people will settle for babysitting or maid-by-the-day employment.

A number of entry level jobs unquestionably utilize home economics knowledge and skills. Workers move up career ladders to points at which they can also move laterally to some other ladders with professional levels quite different from the ones on which they started. These lateral moves occasionally lead to jobs that require knowledge and skills in areas other than home economics--health, for example. The worker must then be referred to sources for career development in that field.

Related Career Areas

Merchandising

Dry Cleaning

Clothing Alteration

Clothing Design and Construction

Child Care Center

Day Schools for Handicapped Children

Recreation Centers

Institutions for Children (Juvenile Correction Home, etc)

Private Education

Dietetics

School Food Service

Airline Foods

DAY CARE CENTER WORKER

Job Summary

A day care center worker provides child care for children in a private home or school and promotes the development of the child's cognitive, language and social skills.

Qualifications

1. Skills in music, crafts, stories, games and free play
2. Ability to answer questions, encourage curiosity and foster a self-sufficient attitude

Salary

Entry Level $1.60 - $2.10/hr.
Experienced $500/mo.

Training

Various centers have different requirements, although a high school diploma is often considered a minimal requirement.

Programs are presently available for residents of Kalihi-Palama through the Manpower Center.

Local Information Referral Source:

Hawaii Child Care Association
attn: Mrs. Helen Inouye
4224 Keanu
Honolulu, Hawaii 96816
Telephone: 737-5558

Outlook

Centers will increase in number and salaries should increase as well.

Lattice Possibilities

From a day care center into department store retailing in children's clothing, toys, etc.;or into food service, eg., catering children's parties, or into clothing and textile field, eg., making children's clothing or toys.

DAYWORKER

Job Summary

A dayworker cleans someone's house on a regular basis; usually sweeps, mops, dusts and vacuums; may also cook, iron, scrub and help take care of children.

Qualifications

1. ability to operate household equipment such as vacuum cleaners, floor waxes, dish washers, and electric mixers
2 should be agreeable and trustworthy as well as neat, clean and in good health

Salary

Approximately $2.00/hr.

Training

General housekeeping experience

Employment

Contact:

Manpower Center
1105 Dillingham Blvd.
Honolulu, Hawaii
Telephone: 847-2071

PROGRAM ASSISTANT

Job Summary

Program assistants are homemakers who share their time and talents to improve the nutritional status of disadvantaged families. They work with homemakers on a person-to-person basis in the homemaker's home; meet with supervisor to analyze individual family needs; focus on improving the family's diet by explaining the necessity for a balanced diet; encourage the family to enroll in the food stamp or donated foods programs, and suggest ways to stretch the food dollar.

Qualifications

1. successful homemaking skills
2. ability to analyze the nutritional status of families
3. ability to effectively communicate with a variety of people from different backgrounds

Salary

$2.45/hr., 20 hr./week

Training

Intensive two-week training in nutrition, consumer education, resource management and human relationships before work begins. Workers continue training one morning per week while employed.

Career Ladder and Lattice Possibilities

Food service worker
Dietary supervisor
Dietician
School food service
Manager
Cook

Outlook

As additional resources become available, more program assistants will be hired.

For more information, contact an Extension Home Economist at a County Extension Office:

Oahu

Mrs. Frances Au
429-B Waiakamilo Road
Honolulu, Hawaii 96817
Telephone: 870-871

Hawaii

Mrs. Beverly Takaba
Federal Bldg.
P.O. Box 1882
Hilo 96720
Telephone: 935-2804

Kauai

Miss Euginia Donahue
P.O. Box 1588
Lihue 96766
Telephone: 245-4036

Maui

Miss Charlotte Wada
Post Office Bldg.
Wailuku 96793
Telephone: 33-242

Molokai

Miss Beth Kincaid
State Office Bldg.
Kaunakakai 96748
Telephone: 533-5445

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Dictionary of occupational titles. U.S. Department of Labor, Third Edition, Volume I, 1965.

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Occupational outlook handbook. U.S. Department of Labor, 1970-1971 Issue.

Pay rates in Hawaii. Hawaii Employers Council, Research Division, September 1971.

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ENVIRONMENTAL CONTROL

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ENVIRONMENTAL CONTROL

As vital as the protection of the environment is to the welfare of all human beings, the nation is in reality only at the threshold in its attempts to tackle the formidable task that is facing it.

At the present time, the majority of jobs in the area of environmental control are professional in nature, requiring in most cases at least a master's degree; however, it is anticipated that a great number of employment opportunities for sub-professionals or technicians will be needed in such areas as enforcement and surveillance. The difficulty here is that manpower needs in the field are largely undefined. How does the student prepare for a job that today is not in existence?

Students interested in the area of environmental control should gain a background in sciences such as chemistry, biology, physics, bacteriology, entomology, geology, and geography. At the present time in the Islands there is no specific course of study designed for the individual interested in pursuing a career in a sub-professional capacity in the area of environmental control. Leeward Community College is proposing a program of study in ecological and environmental technology. However, at the time of publication of this manual, funding for the program had not yet been obtained.

With regard to current job opportunities, the federal, state, and city and county governments are the major employers. For the most part, those working in the private sector are professionals, and the positions as yet are few and far between.

Following are job specifications of entry level positions currently in existence on both the state and the city and county levels. However, it should be pointed out that in none of these areas is the employment figure particularly high. The one possible exception would be that of sewage treatment plant operator. With the construction of new sewage treatment facilities, a number of openings are anticipated.

The student interested in employment with the government should refer to the section of this manual dealing with the procedures to follow to apply for a civil service position.

PROFESSIONAL AREAS OF EMPLOYMENT IN THE NATURAL SCIENCES:

Environmental Science:

Geologist	D.O.T.	024.081
Geophysicist	"	024.081
Meterologist	"	025.088
Oceanographer	"	024.081 and 041.081

Physical Science:

Chemist	D.O.T.	022.081, .168, .181, and .281
Physicist	"	023.081 and .088
Astronomer	"	021.088
Geographer		

Life Science: (D.O.T. 040.081, 041.081, 070.081, 077.128)

Entomologist
Bacteriologist
Pathologist
Biochemist
Marine Biologist
Biophysicist
Embryologist
Geneticist
Physiologist
Microbiologist
Botanist
Zoologist
Agronomist

SOURCES OF INFORMATION

Environmental Center
University of Hawaii
Maile Way
Honolulu, Hawaii
PH: 944-7361

Department of Environmental Health
School of Public Health
College of Health Sciences and Public Welfare
University of Hawaii
Honolulu, Hawaii
PH: 944-8491

Environmental Health Division
Hawaii State Department of Health
1250 Punchbowl Street
Honolulu, Hawaii
PH: 533-1584

Leeward Community College
96-050 Farrington Highway
Honolulu, Hawaii 455-0011

Life of the Land
899 Waimanu Street
Honolulu, Hawaii
521-1300, 533-3987

John Kelley
4117 Blackpoint Rd.
Honolulu, Hawaii
PH: 734-8238
(Save Our Surf)

ENVIRONMENTAL CONTROL

ASSISTANT SEWAGE TREATMENT PLANT OPERATOR

Job Summary

The assistant sewage treatment plant operator operates, maintains, and makes minor repairs to sewage treatment and sludge processing and disposal equipment in a sewage treatment plant; stands independent watch at a sewage treatment plant.

Qualifications

1. Completion of the eighth grade
2. Mechanical experience involving the operation and maintenance of equipment in a pumping plant, marine engine room, power plant, machine shop or related experience
3. Motor vehicle operator's license

Promotional Opportunities

1. Sewage Treatment Plant Operator
2. Supervising Sewage Treatment Plant Operator

Current Salary

$7,140/yr.

$3.43/hr.

Places of Employment

City and County sewage treatment plants

Employment Outlook

Favorable

ELECTRIC PUMPING PLANT OPERATOR

Job Summary

The electric pumping plant operator operates and services a number of electrically-operated sewage pumping stations and auxiliary equipment in a geographical area on an assigned shift.

Qualifications

1. Eighth grade education
2. Mechanical experience involving the operation and maintenance of equipment in an electrical pumping plant, marine engine room, power plant, machine shop or related experience
3. Motor vehicle operator's license

Promotional Opportunities

1. Senior Electrical Pumping Plant Operator and Maintenance Mechanic
2. Chief Electrical Pumping Plant Operator and Maintenance Mechanic

Current Salary

$7,140/yr.

$3.43/hr.

Places of Employment

City and County electrical pumping plants

Employment Outlook

Favorable

Job Summary

The Environmental Health Specialist I serves in a trainee capacity, receiving formal and on-the-job training in the environmental health program. He attends orientation and training sessions and learns the principles and activities of the environmental health program; accompanies higher level specialists on field trips. He receives laboratory training in techniques and operating procedures and concurrently performs simple tasks in the field and laboratory; performs routine field and laboratory work assignments in the conduct of laboratory and field tests on air contaminants, in the inspection of fuel-burning equipment, in the inspection of X-ray producing machines and other work areas in the environmental health program.

Qualifications

1. Bachelor's degree with a major in chemistry, physics, biology, zoology, or other field related to environmental sanitation
2. Motor vehicle operator's license

Promotional Opportunities	Current Salary
Environmental Health Specialist II-VII	$6,348/yr.
Places of Employment	Employment Outlook
State Department of Health	Favorable

LABORATORY ASSISTANT I

Job Summary

The Laboratory Assistant I cares for and maintains laboratory equipment and supplies, and laboratory animals.

Qualifications

1. High school diploma
2. Knowledge of laboratory equipment and terminology; methods of cleaning and sterilizing lab equipment and supplies; methods of caring for lab animals; and simple record-keeping practices

Promotional Opportunities

1. Laboratory Assistant II
2. Laboratory Assistant III

Current Salary

$5,616/yr.

Places of Employment

State Department of Health

Employment Outlook

Favorable

MOQUITO CONTROL WORKER I

Job Summary

The Mosquito Control Worker I operates spray equipment and performs related manual work to abate mosquito breeding. He works as a member of a crew.

Qualifications

1. High school diploma
2. Motor vehicle license
3. Knowledge of common hand tools such as picks, shovels, hoes, and power equipment such as power sprayers

Promotional Opportunities	Current Salary
Mosquito Control Worker II	$4,884/yr.
Places of Employment	**Employment Outlook**
Hawaii State Department of Health	Limited Opportunities

ENVIRONMENTAL CONTROL

REFUSE COLLECTOR

Job Summary

The Refuse Collector collects refuse on an assigned collection route: collects garbage, rubbish, and trash from residential and commercial establishments; lifts containers onto the trucks; receives refuse and containers on top of the truck and empties the contents in the truck; returns containers to proper places; uses pitch forks to pitch grass and hedge cuttings onto the trucks; accompanies trucks to the incinerators.

Qualifications

1. Completion of the eighth grade
2. One year of experience in performing manual labor
3. Ability to perform heavy manual labor

Promotional Opportunities

1. Refuse Collection Crew Leader
2. Refuse Collection Foreman I
3. Refuse Collection Foreman II
4. Refuse Collection Foreman III

Current Salary

$5,976/yr.

$2.87/hr.

Places of Employment

1. City and County government

Employment Outlook

Limited opportunity

Working Conditions

This is an out-of-doors occupation which is carried out under rather unpleasant conditions. Early morning hours are the norm.

RODENT CONTROL MAN I

Job Summary

The Rodent Control Man I prepares baits and traps to kill or catch rats; checks premises and grounds for rodents, fleas, flies, and cockroach infestations and assists in the application of chemical control measures.

Qualifications

1. High school diploma
2. Motor vehicle operator's license
3. Experience in manual work
4. Knowledge of basic hand tools, such as picks, hoes, sprayers, etc.

Promotional Opportunities

1. Rodent Control Man II
2. Rodent Control Foreman
3. Rodent Control Supervisor

Current Salary

$4,884/yr.

Places of Employment

State Department of Health

Employment Outlook

Limited opportunities

ENVIRONMENTAL CONTROL

SANITARIAN I
(D.O.T. 079.118)

Job Summary

This is a trainee classification and is the entry level position to the Registered Sanitarian Series. Work areas under the control and development of the Registered Sanitarian extend to restaurants and drinking establishments, dairy farms and milk processing plants, supermarkets, tenements, hotels, schools, barber shops, laundries, farms, subdivision sites, industrial plants, water sources of any type of establishment or environmental condition that may affect the life, health, or welfare of the people living and working in the State. To carry out the program, the Registered Sanitarian is assigned to a geographic or defined specialty area.

Qualifications

1. Bachelor's degree with a major in hygiene, chemistry, biology, zoology or other related science
2. Motor vehicle license
3. Knowledge of basic physical and biological sciences, such as physics, chemistry, and bacteriology; social sciences

Promotional Opportunities	Current Salary
Registered Sanitarian II - VII (Applicants must possess a Hawaii State Registered Sanitarian License)	$6,348/yr.

Places of Employment	Employment Outlook
Hawaii State Department of Health	Favorable

ENVIRONMENTAL CONTROL

STREETSWEEPER OPERATOR I

Job Summary

The Streetsweeper Operator I operates and maintains a small portable mechanical sweeper as a regular, substantially full-time assignment in cleaning off-street parking lots, park areas, and similar sites; may operate a small or medium-sized truck and trailer to transport sweeper to and from work stations.

Qualifications

1. Eighth grade education
2. Work experience involving the operation of motorized equipment comparable to the class
3. Motor vehicle operator's license

Promotional Opportunities	Current Salary
1. Streetsweeper Operator II	$5,232/yr.
2. Streetsweeper Operator III	$2.52/hr

Places of Employment	Employment Outlook
City and County government	Limited outlook

UTILITY INCINERATOR PLANT OPERATOR

Job Summary

The Utility Incinerator Plant Operator provides operational relief and utility services at municipal incinerators: as a regular and continuing assignment is responsible for providing relief to those employed in specialized full-time incinerator plant occupations.

Qualifications

1. Eighth grade education
2. Experience in the operation, maintenance and/or repair of mechanical or stationary equipment, including or supplemented by some experience in the operation of a crane; some experience in the operation of a truck with a factory-rated capacity of at least 1 1/2 tons

Promotional Opportunities

1. Incinerator Furnace Operator
2. Assistant Incinerator Plant Foreman
3. Incinerator Plant Foreman

Current Salary

$6,360/yr.

$3.06/hr.

Places of Employment

City and County government

Employment Outlook

Favorable

VECTOR CONTROL INSPECTOR I

Job Summary

This is the entry level position in a series involving work in the inspection, investigation, education, enforcement, and abatement activities relating to the control and/or extermination of rodents, mosquitoes, fleas, flies, and other insects which are injurious to human health and comfort or harmful to domestic animals.

Qualifications

1. High school diploma
2. Motor vehicle license
3. A knowledge of elementary biology, chemistry, and hygiene

Promotional Opportunities	Current Salary
Vector Control Inspector II - VII	$6,048/yr.
Places of Employment	Employment Outlook
Hawaii State Department of Health	Favorable

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- laboratory technician
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- medical record administrator
- medical record technician
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- medical technologist
- nurse, aide
- nurse, licensed practical
- nurse, registered
- occupational therapist
- occupational therapy aide
- operating room technician (see surgical aide)
- optometrist
- orderly
- paramedical assistant
- pharmacist
- physical therapist
- physician
- psychiatric aide
- psychiatrist
- psychologist
- radiologic technologist
- rehabilitation counselor
- surgical aide
- veterinarian

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NATIONAL OUTLOOK

Young people with talent and energy will find that opportunity for work exists in many fields. In no other field, however, will opportunity be so great and diversified as in medicine and its allied health fields.

In 1950 the health services industry was the nation's fifth largest employment field. In 1960 it ranked third behind agriculture and construction. In this decade chances are good that it will become the nation's top employment field.

What accounts for this rapid growth?

1. This is a "Golden Age of Medicine" because of the many important medical advances in the 20th century.
2. There is a growing health consciousness among the American public.
3. High earning power and educational level are enabling more people to satisfy their desire for better medical care.
4. The population is likely to increase by 22-27 million by the end of this decade, with a marked increase in the elderly.

MORE AND MORE YOUNG MEN AND WOMEN ARE NEEDED IN VIRTUALLY ALL THE HEALTH PROFESSIONS AND OCCUPATIONS. Between 1950 and 1966 the population of the U.S. rose by 29%. The number of people in health increased by more than 90%.

Whether or not a person chooses to go to work right after high school or after more schooling, there is likely to be a job for him in health. There are at least 700 different career possibilities in the health occupations and professions. Each one involves different skills and interests and offers its own rewards. These are jobs in health for those who like to work directly with people, like nursing, physical therapy, occupational therapy, social work, and medicine. Others, like medical technology, involve working in the relative isolation of a laboratory. There are also jobs like medical or dental assisting which involves secretarial and office work.

Though the need for more physicians continues, THERE IS AN EVEN GREATER NEED FOR PERSONS TRAINED IN RELATED HEALTH FIELDS.

Leaders in medicine and allied health professions estimate that the United States will need within the next 5 - 10 years:

1. 229,000 more professional nurses
2. 125,000 more practical nurses
3. 50,000 more physicians
4. 40,000 more speech pathologists
5. 38,000 more medical technologists
6. 30,000 more dietitians
7. 18,000 more medical social workers
8. hundreds of thousands of auxiliary personnel in hospitals, laboratories and other medical facilities.

By 1980 more than ONE MILLION people will be working in health occupations. However, despite the increase in number of workers, there will still be a shortage of trained people.

For those who want to become physicians, members of the following groups will find greater opportunities for admission to medical school:

1. women (only 8% of medical students are women)
2. racial minorities (fewer than 3% of all medical degree candidates in 1969 were balck)
3. low-income families (fewer than 10% of medical students are from families with annual incomes of $5,000 of less)

The Emergency Health Personnel Act of 1970 was an immediate step to supply health manpower in critical shortage areas. For a physician, dentist or nurse working in an underserved area, the Administration has proposed that a large part of the educational loan be forgiven for each year served.

Student assistance. The Office of the President of the United States has proposed that opportunities for the disadvantaged to enter professional careers be expanded. Scholarship support is expected to increase from the current $15 million a year to $29 million. The average amount of scholarship assistance for medical, dental, and osteopathic students is expected to triple, from $1,000 to $3,000 for the first two years of graduate study, with special provisions for guaranteed loans for the remainder of study. The Administration has also proposed extending scholarship support for nursing students and increasing the maximum loan guarantee from $1,500 to $2,500 a year.

The President himself in his Health Message of 1971 pointed to the need for more allied health workers:

> *One of the most promising ways to expand the supply of medical care and to reduce its costs is through a greater use of allied health personnel, especially those who work as physicians' and dentists' assistants, nurse pediatric practitioners, and nurse midwives. Such persons are trained to perform tasks which must otherwise be performed by doctors themselves, even though they do not require the skills of a doctor. Such assistance frees a physician to focus his skills where they are most needed and often allows him to treat many additional patients.*

AGAIN, BETTER HEALTH CARE IS A NATIONAL PRIORITY OF THE HIGHEST ORDER. THIS MEANS MORE AND BETTER TRAINED WORKERS IN HEALTH ARE NEEDED AND WILL BE NEEDED FOR THE NEXT DECADE.

There are serious deficiencies in the health-care delivery system of the United States:

1. The poor and members of racial minorities live shorter lives, have more chronic and debilitating illnesses, a higher infant and maternal mortality rate, and far less access to health services.
2. Gross measures indicate that the U.S. is not performing as well on health status as other nations. For example, it ranks 13th on infant mortality.

3. There are disparities in the geographical location of health resources. Most health services are concentrated in large metropolitan areas.
4. There is a need for more primary care physicians, such as general practitioners, pediatricians, and internists, but the supply consists more of specialists.
5. Physicians often spend too much time on tasks that could be performed by properly trained assistants.

What are the implications of these deficiencies?

1. More efforts will be made to provide special services to people living in critical health service shortage areas.
2. More medical students will be encouraged to become primary care physicians instead of specialists.
3. More assistant and aide positions will be created in hospitals, doctors' and dentists' offices and medical and dental laboratories, to devote more time to more serious health problems.

What are some impending changes in the health-care delivery system?

1. An increasingly bigger ratio of allied health personnel to physicians.
2. An increase in prepaid, group-practice plans.
3. Greater emphasis on care outside the hospital, in the form of ambulatory, preventive and health-maintenance care.
4. A shift in attitude toward health care as a basic human right and public utility. Some form of national health insurance is very likely in the near future.
5. Greater emphasis on health-care team functioning.
6. Rapid acceleration in use of biomedical knowledge and discovery.

AGAIN, CHANCES ARE GOOD THAT HEALTH WILL BECOME THE NATION'S TOP EMPLOYMENT FIELD IN THE 70'S. OPPORTUNITIES ARE EXCELLENT IN VIRTUALLY EVERY HEALTH JOB AND AT ALMOST EVERY LEVEL.

LOCAL OUTLOOK

There is no question that in the future Hawaii, like the rest of the nation, will need more and more workers in the health field, particularly allied health manpower to work with doctors, nurses and dentists. Though the long-term picture in terms of state government employment prospects is good, the immediate picture (1972) is not as bright because of the economic recession. An upswing in most employment is probably contingent on improvement of Hawaii's economic situation.

The Hawaii State Department of Health employs 3,445 people. In number of employees, it is the third largest in the State government, with an annual operating budget of over $44 million.

According to Dr. Walter Quisenberry, Director of the Department of Health, there is a trend toward more generalists, rather than specialists, in the health field. Increased efforts are being made to hire community residents as aides in special projects. There is also a trend towards less emphasis on institutional care, with greater emphasis on outpatient treatment.

In the hospitals, however, there seems to be a trend toward highly skilled and specialized people. Efforts are being directed toward taking present employees and upgrading them through the development of more specialized skills, such as in more specialized nursing care. In the dietary realm, there may be a shift to gourmet cooking, requiring the services of a chef. An increase in electronics maintenance and repairmen is anticipated because of the equipment being used. Computer services are also being increasingly utilized and there will be a need for workers such such as systems analysts and programmers. There will be a need for more mental health workers (psychologists, social workers and aides) to provide ongoing and outpatient care.

There will be increased emphasis on health education, creating good job opportunities for paramedical aides, for community relations workers and medical social workers. Because of the impossibility for medical schools in the United States to keep up with the demand for physicians, there is an increasing emphasis locally on the use of paramedical and ancillary personnel.

Locally, the following positions have been in constant recruitment, with shortages likely to continue for some time:

licensed practical nurses
nurses' aides
dental assistants
dental hygienists
medical technologists
x-ray technologists

In terms of union membership in the field of health, those employed by the State government are eligible for membership in the Hawaii Government Employees Association (HGEA) union (Local 52 of the American Federation of State, County and Municipal Employees, AFL-CIO) with the exclusion of the following:

Blue collar, nonsupervisory workers (Unit 1) and non-professional hospital workers (Unit 10) employed after January 20, 1971, are eligible for membership in the Hospital Division of the United Public Workers (UPW) (Local 646 of the American Federation of State, County and Municipal Employees, AFL-CIO).

Workers at private hospitals with a union shop agreement with the UPW are required to join the union, whereas those at private hospitals with agency shop agreements are not.

Employees at Kaiser Foundation Hospital are eligible for membership in Local 142 of the ILWU (clinical x-ray employees) and Local 5 of the Hotel and Restaurant Employees and Bartenders International.

Registered nurses, regardless of place of employment, may belong to the Hawaii Nurses Association, designated as the official collective bargaining unit for RN's.

One of the growing fields in Hawaii and the U.S. is EMERGENCY MEDICAL

SERVICES, resulting in the creation of the jobs of Emergency Medical Technician and Emergency Room Technician. The Emergency Medical Technician operates all equipment for on-the-scene treatment of emergencies, while the Emergency Room Technician works in the emergency room of the hospital. Although there is a trend toward providing a full-time physician in the emergency room (a trauma physician), the shortage of such physicians points to the need for more Emergency Room Technicians.

At present under a Federal grant from the National Highway Safety Act, City and County ambulance personnel are being trained as Emergency Medical Technicians. Upon completion of training, they will be eligible for registry with the National Registry Board for emergency technicians.

Although there is no question that Hawaii will need more workers in health, there is a need for more planning to meet those needs. State health educators and representatives are currently discussing ways of collecting information to plan for Hawaii's future needs.

The Hawaii Medical Service Association is experimenting with a national program to cut the costs of medical care. The project is called Health Maintenance Organization (HMO). Its purpose is to decrease the frequency and length of hospital stays by preventive medicine, and by relying on paramedical assistants to reduce the workload of physicians. The eventual object of HMO is to provide everyone in all parts of the State with total health care--physical examinations, immunizations, health care education, pediatric and obstetric clinics, psychological and psychiatric counseling--for very little money.

To do this will require MORE PARAMEDICAL PEOPLE and the restructuring of medical facilities.

At present Oahu has the greatest concentration of physicians. In fact, the concentration of physicians is even greater than that of the general population. All of the specialities are concentrated on Oahu, predominantly in Honolulu. There are no neurologists, allergists or neurosurgeons on the outer islands.

Furthermore, although Hawaii compares well with the rest of the U.S. in number of physicians in relationship to the population on a statewide basis, the distribution of physicians on a county and district basis shows much variation. In some districts, such as Puna and North Kohala on Hawaii; Waianae, Koolauloa, Waialua and Wahiawa on Oahu; Koloa and Hanalei on Kauai; and Makawao on Maui, there is an apparent shortage of medical services.

In the County of Hawaii, especially the Hilo district, there is a concentration of older doctors who are approaching retirement age.

In conclusion, although there is no question that Hawaii will need more health workers in the next decade because of population increase, greater availability of health insurance programs, and more demand for medical services, the availability of jobs with the State government is contingent on an improved economic picture. Many positions are "frozen" at present, that is, funds have not been released to fill the positions. How long this situation will continue is uncertain.

Therefore, in Hawaii though the long-range picture in health is encouraging, the immediate prospects in some fields are not. There do continue to be some jobs in constant demand, however, such as licensed practical nurses, nurses' aides, dental assistants, dental hygienists, medical technologists, and x-ray technologists.

TRAINING PROGRAMS FOR HEALTH PERSONNEL IN HAWAII

Hawaii is fortunate in that the education of professional and para-professional health workers falls within the scope of a single body, the University of Hawaii. Health training takes place primarily in the Schools of Medicine, Nursing, Social Work, and Public Health, and at Kapiolani, Kauai, Hawaii, and Maui Community Colleges.

There is, however, a problem of separate and uncoordinated teaching of health professionals within the University system, as well as some uncertainty about what Hawaii's true manpower needs are. Is there a need for more of the same kinds of people performing the same functions? Is there a greater need for a balance of new and existing professionals performing different and shared functions? These are questions which health educators are presently attempting to answer for Hawaii.

In the community colleges, most of the health services training occurs at Kapiolani Community College. New programs are in the planning stage to meet the demands from the community for certain kinds of health workers. For example, the inhalation therapy program being offered now is so new that only two universities in the nation offer a degree in this field. Tentatively planned for the future are training programs for occupational therapy assistants, medical records technicians, and environmental health technicians.

The 1972 State Legislature approved the expansion of the two-year medical school to a four-year degree-granting medical institution.

This means that students no longer have to transfer to mainland schools for completion of training leading to the M.D. degree. The first third-year medical class begins in the fall of 1973. Hawaii will now be able to train its own doctors locally.

A new off-campus Master's degree program in Public Health will be initiated by the University of Hawaii School of Public Health. This program will enable mid-career health executives to work towards a Master's degree without being away from their jobs for an extended period of time.

The need for such a program stems from the fact that there are some 350 health planning and administration positions in Hawaii that require a Master's degree. However, only some of these positions are filled by people thus qualified.

The revolutionary off-campus master's degree program will feature highly flexible, individualized instructional packages with minimal on-campus demands. Instruction will include directed reading, tapes, recorded tutoring and lessons by mail.

If support funding is obtained from the U.S. Department of Health, Education and Welfare, a pilot program may get under way this summer (1972).

The following is a listing of some health training programs available in Hawaii:

SOME HEALTH EDUCATIONAL AND OCCUPATIONAL TRAINING PROGRAMS IN HAWAII

Program	Degree	Areas of Specialization	Contact
Basic aide/clinic aide	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654
Dental Assisting	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654
Dental Hygiene	Certificate		Dept. of Dental Hygiene University of Hawaii 2528 The Mall, Webster 216 Honolulu, Hawaii 96822 Telephone: 944-8821
Educational Psychology	M.ED., Ph.D.	counseling & guidance learning measurement, statistics & research	Dept. of Educational Psychology University of Hawaii Wist Annex 2, Room 121 Honolulu, Hawaii 96822 Telephone: 944-8575
Human Development	B.S.	child development family & community service	Dept. of Human Development University of Hawaii 2001 Vancouver Drive Honolulu, Hawaii 96814 Telephone: 944-7231
Inhalation Therapy	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654

Program	Degree	Areas of Specializations	Contact
Medical Assisting	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654
Medical technology	B.S.		Dept. of Medical Technology University of Hawaii Snyder 410 Honolulu, Hawaii 96822 Telephone: 944-8557
Medicine	M.D.		Admissions Office University of Hawaii School of Medicine 1960 East-West Road Honolulu, Hawaii 96822 Telephone: 944-8287
Nurse Aide	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654
			Kauai Community College RR 1, Box 216 Lihue, Kauai, Hawaii 96766 Telephone: 245-6741
			Manpower Training Program 1040 South King St. Honolulu, Hawaii 96814 Telephone: 548-5791

Program	Degree	Areas of Specializations	Contact
Nutrition	B.S. M.S.	nutrition research community nutrition therapeutic dietetics foods in industry & research consumer services in foods food service management	Dept. of Food & Nutritional Sciences University of Hawaii Henke 302 Honolulu, Hawaii 96822 Telephone: 944-8710
Operating Room Technician	Certificate		Queen's Medical Center Personnel Office Telephone: 538-9011, ext.355
Pharmacology	M.S. Ph.D.		Dept. of Pharmacology School of Medicine Biomedical Science Bldg. Tower 408-C University of Hawaii Honolulu, Hawaii 96822 Telephone: 944-8936
Practical Nursing	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96814 Telephone: 531-4654
			Kauai Community College RR 1, Box 216 Lihue, Hawaii 96766 Telephone: 245-6741
			Hawaii Community College 1175 Manono St. Hilo, Hawaii 96720 Telephone: 935-0091
			Manpower Training Program 1040 S. King St. Honolulu, Hawaii 96814 Telephone: 548-5791

Program	Degree	Areas of Specialization	Contact
Professional Nursing	B.S. M.S.	(in the graduate program: psychiatric nursing, community health nursing, medical surgical nursing)	Dept. of Professional Nursing University of Hawaii Webster 411-A Honolulu, Hawaii 96822 Telephone: 944-8523
Psychology	B.A. M.A. Ph.D.	(in the graduate program: experimental, developmental, social-personality, clinical, learning theory & human behavior)	Dept. of Psychology University of Hawaii Gartley 110 Honolulu, Hawaii 96822 Telephone: 944-8414
Public Health	M.P.H. M.S.	administration biostatistics environmental health epidemiology international health maternal & child health mental health population & family planning public health education public health nutrition	School of Public Health University of Hawaii Biomedical D-209 Honolulu, Hawaii 96822 Telephone: 944-8491
Radiological Technology	A.S.		Kapiolani Community College 620 Pensacola St. Honolulu, Hawaii 96822 Telephone: 531-4654
	Certificate		Queen's Medical Center School of Radiologic Technology 1301 Punchbowl Street Honolulu, Hawaii 96813

Program	Degree	Areas of Specialization	Contact
Social Work	M.S.W.		School of Social Work University of Hawaii Hawaii 117 Honolulu, Hawaii 96822 Telephone: 944-7182
Speech pathology & audiology	B.S. M.S.		Dept. of Speech Pathology & Audiology University of Hawaii George 113 Honolulu, Hawaii 96822 Telephone: 944-8279
Surgical Assisting	Certificate		Queen's Medical Center Personnel Office Telephone: 538-9011,ext.355
Technical Nursing	A.S.		Department of Technical Nursing University of Hawaii Webster 423 Honolulu, Hawaii Telephone: 944-8556

OTHER HEALTH PROGRAMS

Recently there has been growing interest in a large number of health workers who perform certain medical care tasks that were formerly limited to physicians or other health practitioners. The term most commonly applied to this new type of personnel is "physician's assistant." Other terms are "physician's associate," "medical specialty assistant," and "MEDEX."

A recent report by the National Academy of Sciences lists three types of physician assistants:

The Type A assistant. This assistant is capable of approaching the patient; collecting historical and physical data; organizing these data; presenting them in a way that the physician can visualize the medical problem and determine diagnostic and therapeutic procedures; and coordinating the roles of other technical assistants. The Type A assistant is distinguished by his ability to integrate and interpret findings on the basis of general medical knowledge as well as his ability to use a degree of independent judgment.

The Type B Assistant. Though not equipped with general knowledge and skills, the Type B assistant has exceptional skill in one clinical specialty or in certain procedures within that specialty. In his area of specialty, he has a degree of skill beyond that usually possessed by a Type A assistant and perhaps even beyond that normally possessed by physicians not in that specialty.

The Type C Assistant. This assistant can perform a variety of tasks over the whole range of medical care under a physician's supervision, although he does not have the level of medical knowledge necessary to integrate and interpret findings. This assistant would be to medicine what the practical nurse is to nursing.

Many medical specialties have already established a physician assistant category: orthopedic surgery, pediatrics, obstetrics, urology. Others are considering it.

At present there are about 80 programs in different stages of development. In addition, there are about 50 programs that extend nursing roles. The training period of most of the existing programs ranges from four months to three years. The short-term programs enroll highly trained, experienced students and give them a new orientation, training and new clinical skills. The longer programs accept applicants with much less training and provide one year of instruction, one year of clinical training, and one year of internship.

Persons interested in training programs for physician support personnel should refer to:

> "Selected Training Programs for Physician Support Personnel, Health Manpower Data Series, U.S. Dept. of Health, Education and Welfare, Public Health Service, National Institutes of Health Publication No. 72-183, March 1971.

MEDEX

MEDEX is a special project to provide new health professionals who can help doctors increase their productivity. Former military corpsmen from the Air Force, Navy, Coast Guard and Army are eligible and are selected after an intensive interview-selection process. There are no age limits and no educational requirements other than prior military medical training.

The MEDEX program is divided into two phases:

1. The University training phase. This lasts about 3 months. Emphasis is on pediatrics, geriatrics, history-taking, physical examination, and transition from military medicine to civilian medicine.

2. The preceptorship phase. This lasts 12 months. For the first few months, the MEDEX assists the physician by learning and applying medical-care skills under the physician's supervision. With experience, the MEDEX can screen patients, make screening house calls, take emergency calls, assist at surgery, apply and remove casts, perform laboratory work, take histories, and aid in other tasks not requiring a physician's extensive training.

   At the end of the preceptorship, the physician hires the MEDEX to help him in his practice.

During the 15-month training period, the MEDEX is paid a stipend of $5,400 a year plus dependents' allowances. Starting salaries upon completion of training are expected to be $8,000 - $12,000 a year.

Additional information may be obtained from:

MEDEX Communication Center
444 Northeast Ravenna Blvd.
Seattle, Washington 98115

Locally in Hawaii, efforts are being made to initiate a MEDEX program. Thus far, however, it is not available.

MEDIHC

MEDIHC stands for Military Experience Directed into Health Careers. It is a cooperative program of the Department of Defense and the Department of Health, Education and Welfare, and is designed specifically to help men and women trained in medical skills while in the service to use those skills when they return to civilian life.

Eligible for MEDIHC are those who have decided to separate from the service, are within 90 days of the end of their service tour, and are interested in a career in health.

MEDIHC can help those eligible get started in a health occupation offering immediate income. For those who have time for additional training, MEDIHC can help by giving pointers on where training is available and how it can be used later.

For more information, those interested should contact the TRANSITION Officer, Personnel Officer, or designated MEDIHC Coordinator for their military installation; the Department of Health of the state in which they plan to live; or the Dept. of Health, Education and Welfare MEDIHC Coordinator, 330 Independence Ave., S.W., Washington, D.C. 20201.

LIST OF HEALTH OCCUPATIONS BY AREA

The following is a list of about 125 health occupations for which special education or training is required.

"Technologist" and "Therapist"	both require educational preparation at the baccalaureate level or above
"Technician" and "Assistant"	both require educational preparation at the associate degree level (2 years of college education or other formal preparation beyond high school)
"Aide"	requires specialized training of less than 2 years duration beyond high school, or on-the-job training

LIST OF ASSOCIATIONS RECOGNIZED FOR THEIR SPECIALIZED ACCREDITATION OF HEALTH EDUCATIONAL PROGRAMS

Allied Medical Health Education

(medical laboratory technician education)
Accrediting Bureau for Medical Laboratory Schools
Philip Lewis, Administrator
166 East Superior Street
Chicago, Illinois 60611
(programs for medical technologist, occupational therapist, physical therapist, medical record librarian, medical record technician, and radiologic technologist-technician)
American Medical Association, Council on Medical Education
C.H. William Ruhe, Secretary
535 North Dearborn Street
Chicago, Illinois 60610

Anesthesiology

(professional schools)
American Association of Nurse Anesthetists
Bernice O. Baum, Executive Director
111 East Wacker Drive
Chicago, Illinois 60601

Dentistry

(programs leading to DDS or DMD degrees; and programs for dental hygienist, dental assistant, and dental laboratory technician)
American Dental Association
John M. Coady, Secretary
Council on Dental Education
211 East Chicago Avenue
Chicago, Illinois 60611

Health Resources Statistics, 1970, U.S. Dept. of Health, Education and Welfare. PHS Pub. No. 1509

Hospital Administration

(graduate-degree programs in hospital administration)
Accrediting Commission on Graduate Programs in Hospital Administration
Gary L. Filermen, Executive Director
One Dupont Circle, N.W., Suite 420
Washington, D.C. 20036

Medicine

(programs leading to M.D. Degree)
Liaison Committee on Medical Education representing the Council on
Medical Education, AMA, and the Executive Council, AAMC
(In even numbered years)
C.H. William Ruhe, Secretary Council on Medical Education
American Medical Association
535 Dearborn St.
Chicago, Illinois 60610
(In odd numbered years)
Robert E. Berson, Executive Director
Association of American Medical Colleges
One Dupont Circle, N.W., Suite 200,
Washington, D.C. 20036

Nursing

(professional and practical nurse programs)
National League for Nursing, Inc.
Margaret E. Walsh, General Director and Secretary
10 Columbus Circle,
New York, New York 10019
(practical nurse programs)
National Association for Practical Nurse Education and Service, Inc.
Rose G. Martin, Executive Director
1465 Broadway
New York, New York 10036

Optometry

(professional schools)
American Optometric Association
Charles G. Lile, Executive Secretary
Council on Optometric Education
7000 Chippewa St.
St. Louis, Missouri 63119

Osteopathic Medicine

(programs leading to D.O. degree)
American Osteopathic Association
Lawrence W. Mills, Director
Office of Education
212 East Ohio St.
Chicago, Illinois 60511

Pharmacy

(professional schools)
American Council on Pharmaceutical Education
Fred T. Mahaffey, Secretary
77 West Washington St.
Chicago, Illinois 60602

Podiatry

(baccalaureate and graduate-degree programs)
American Podiatry Association
John L. Bennett, Director
Council on Podiatry Education
20 Chevy Chase Circle, N.W.
Washington, D.C. 20015

Psychology

(doctoral programs in clinical and counseling psychology)
American Psychological Association
William L. Simmons, Acting Administrative Officer for Educational Affairs
1200 17th St., N.W.
Washington, D.C. 20036

Public Health

(master's degree programs in community health education and graduate professional schools of public health)
American Public Health Association, Inc.
Director of Professional Education
Committee on Professional Education
1740 Broadway
New York, New York 10019

Social Work

(graduate professional schools)
Council on Social Work Education
Frank M. Loewenberg, Director
Division of Education Standards and Accreditation
345 East 46th St.
New York, New York 10017

Speech Pathology and Audiology

(master's degree programs)
American Speech and Hearing Association
Stanley Ainsworth, Chairman
Education and Training Board
American Boards of Examiners in Speech Pathology and Audiology
9030 Old Georgetown Road
Bethesda, Md. 20014

Veterinary Medicine

(programs leading to DVM and VMD degrees)
American Veterinary Medical Association
W.M. Decker, Director of Scientific Activities
Department of Education and Licensure
600 South Michigan Avenue
Chicago, Illinois 60605

DESIGNATION OF CERTIFICATION OR REGISTRATION OF HEALTH MANPOWER BY NONGOVERNMENT AGENCIES

HEALTH FIELD AND OCCUPATION	DESIGNATION	AGENCY
Clinical Laboratory Services		
Clinical Chemist	Diplomate	American Board of Clinical Chemistry
Microbiologist	Diplomate	American Board of Microbiology
Medical Technologist	MT(ASCP)	Board of Registry of Medical Technologist of the American Society of Clinical Pathologists
Cytotechnologist	CT(ASCP)	"
Histologic Technician	HT(ASCP)	"
Certified Laboratory Assistant	CLA(ASCP)	"
Medical Laboratory Technician	MLT(ASCP)	"
Dentistry and Allied Services		
Dentist	Diplomate	8 specialty boards recognized by American Dental Association
Certified Dental Assistant	C.D.A.	American Dental Assistants Association Certifying Board
Certified Dental Technician	C.D.T.	National Board for Certification in Dental Laboratory Technology
Dietetic and Nutritional Services		
Registered Dietitian	R.D.	American Dietetic Association
Environmental Control		
Enrivonmental Engineer	Diplomate	American Academy of Environmental Engineers
Sanitarian	"	American Intersociety Academy for Certification of Sanitarians
Health Physicist		American Board of Health Physics
Industrial Hygienist		American Academy of Industrial Hygiene
Library Services		
Medical Librarian	Certified	Medical Library Association
Medical Records		
Registered Record Librarian	RRL	American Medical Record Association
Accredited Record Technician	ART	"

Health Resources Statistics, 1970, U.S. Dept. of Health, Education and Welfare. PHS Pub. No. 1509

HEALTH FIELD AND OCCUPATION	DESIGNATION	AGENCY
Medicine and Osteopathic Medicine		
Physician	Diplomate	20 primary specialty boards recognized by American Medical Association
Osteopathic Physician	Diplomate	12 specialty boards recognized by American Osteopathic Association
Occupational Therapy		
Registered Occupational Therapist	O.T.R.	American Occupational Therapy Association
Certified Occupational Therapy Assistant	C.O.T.A.	"
Optometry, Opticianry, and Other Occular Services		
Orthoptist	Certified	American Orthoptic Council
Orthotic and Prosthetic Technology		
Orthotist	Diplomate	American Board of Certification in Orthotics and Prosthetics
Prosthetist	"	"
Physical Therapy		
Registered Physical Therapist	P.T. (ARPT)	American Registry of Physical Therapists
Adiologic Technology		
Registered Radiologic Technologist	R.T.(ARRT) R.T.(ART)	American Registry of Radiologic Technologists
	R.T.(ART)	American Registry of Clinical Radiography Technologists
Secretarial and Office Services		
Medical Office Assistant	Certified	American Association of Medical Assistants
Social Work		
Social Worker	Certified	Academy of Certified Social Workers
Specialized Rehabilitation Services		
Certified Corrective Therapist	C.C.T.	American Board for Certification of Corrective Therapists
Registered Music Therapist	R.M.T.	National Association for Music Therapy
Speech Pathology and Audiology		
Speech Pathologist	Certified	American Speech and Hearing Association
Audiologist	"	"

HEALTH FIELD OCCUPATION	DESIGNATION	AGENCY
Veterinary Medicine		
Veterinarian	Diplomate	7 specialty boards recognized by American Veterinary Medical Association
Miscellaneous Health Services		
Registered Inhalation Therapist	A.R.I.T.	American Registry of Inhalation Therapists
Certified Inhalation Therapy Technician	Certified	American Association for Inhalation Therapy Certification Board
Registered Electroencephalographic Technologist	R.EEGT.	American Board of Registration of Electroencephalographic Technologists
Certified Operating Room Technician	C.O.R.T.	Association of Operating Room Technicians Certification Board

This calendar gives you a quick check on how many years of education, after high school, you should count on for the representative health occupations listed here. The lines and symbols show what is customary--some people take only minimum required training; many take more.

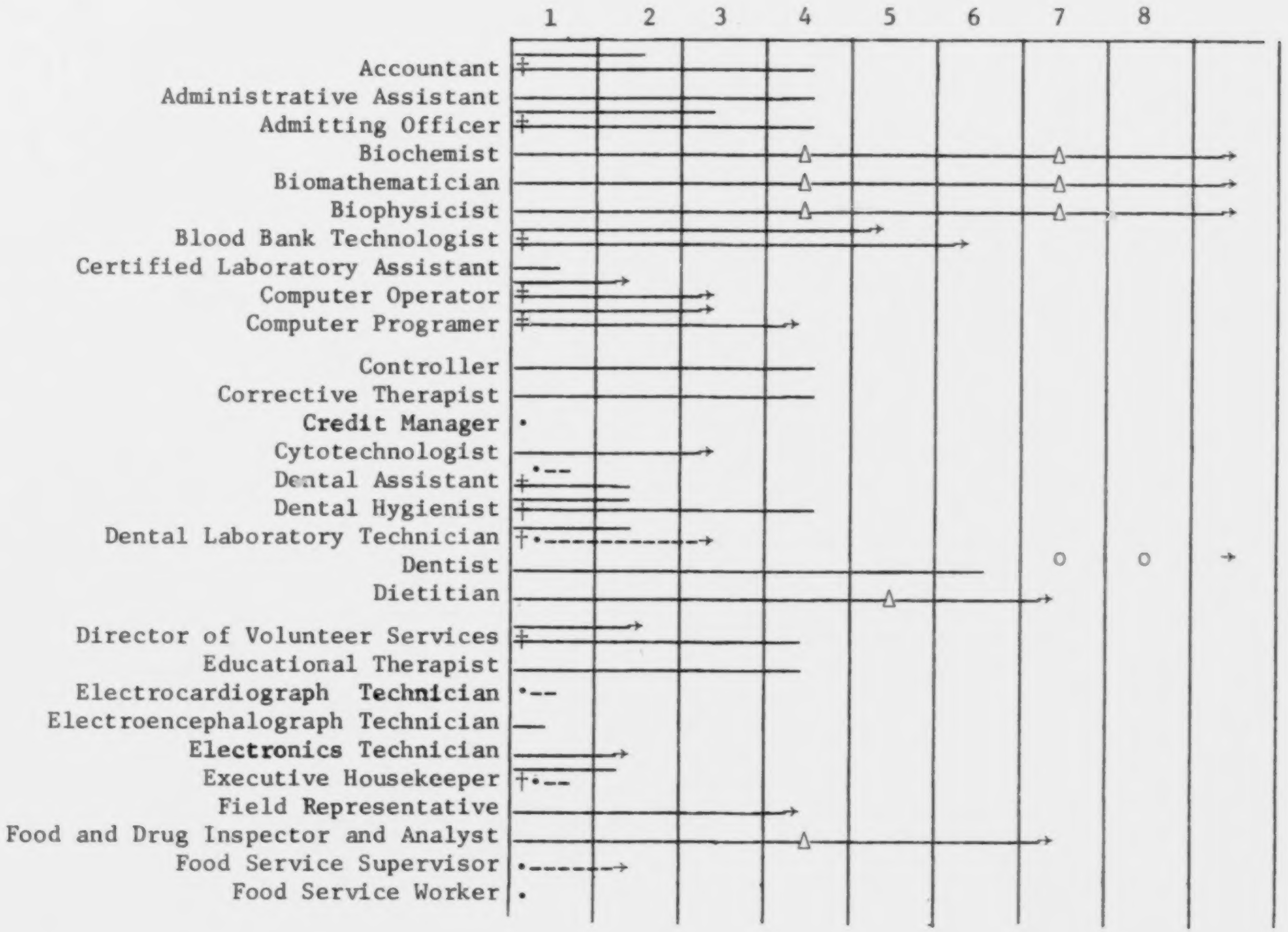
•	This kind of work requires no special training beyond what you can usually get in high school.
•---	After starting, you serve an apprenticeship or get similar organized on-the-job training.
———	Lines and symbols used with them indicate full years. To start requires special training either in college, in a hospital or special school, or in a professional school after 1-4 years of college.
╪═══	Special training is required, but you have a choice, each type of training taking a different number of years.
Δ	First symbol means you can get beginner's job after college, but will usually need more study, as well as experience, for advancement. Graduate training ordinarily goes to or beyond master's or doctor's degree.
———→	Your planning should look beyond minimum requirements; continuing study, after entering professional practice, is important to further advancement.
o	Though the line shows the minimum to qualify, more pre-professional years in college often lengthen the total training time.
{^{9}m}	Special course or on-the-job training is shown in number of months.

This calendar pictures training information in condensed timetable form. To get a more detailed picture. . . read the Health Careers Guidebook Briefings. . . consult your school advisers for information and personal guidance on training and the local outlook for the career you want.

Based from Health Careers Guidebook, U.S. Department of Labor.

AFTER YOU ARE GRADUATED FROM HIGH SCHOOL

THESE HEALTH CAREERS TAKE THIS TRAINING FIGURED IN YEARS



Calendar based from Health Careers Guidebook, U.S. Department of Labor.

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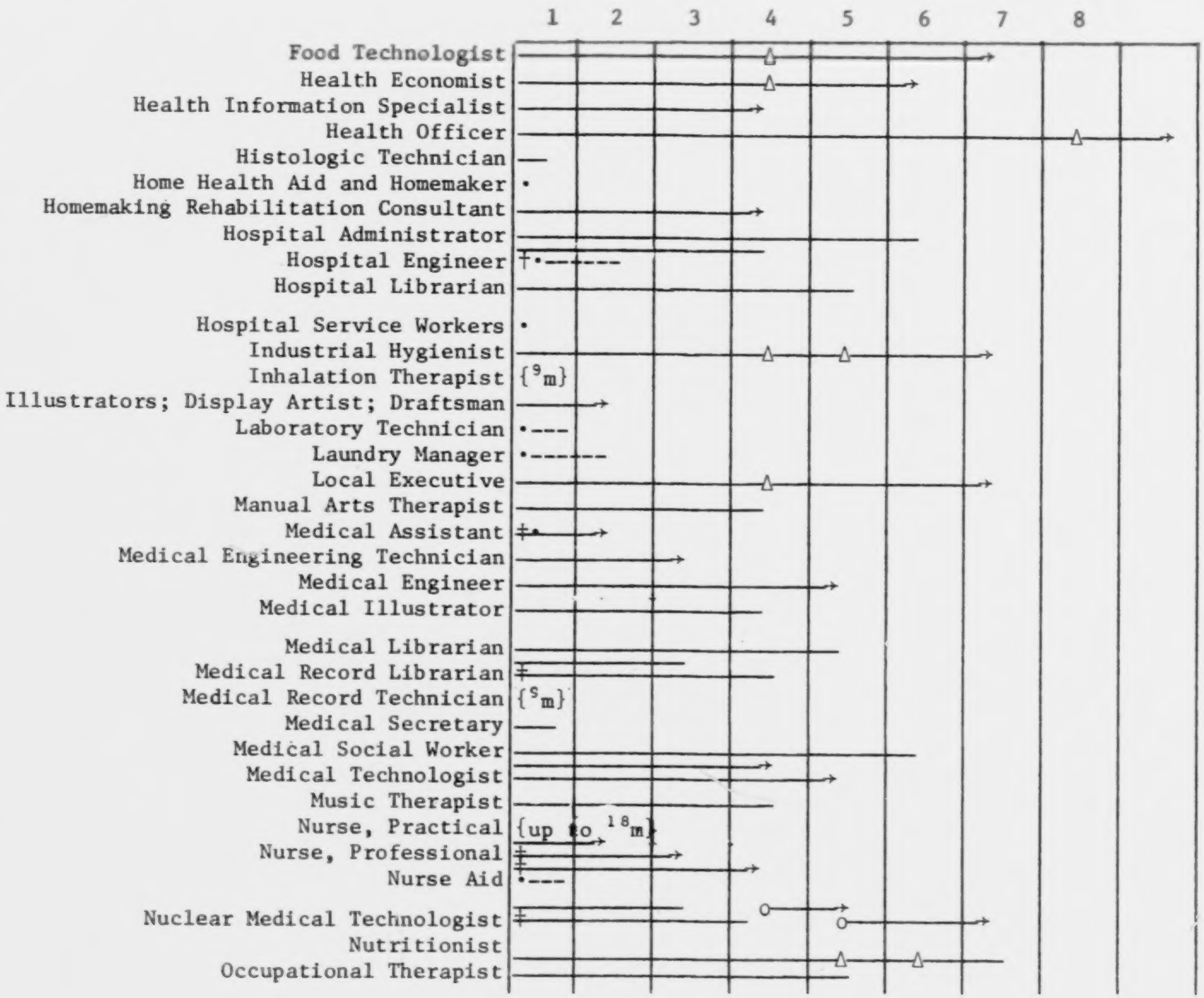
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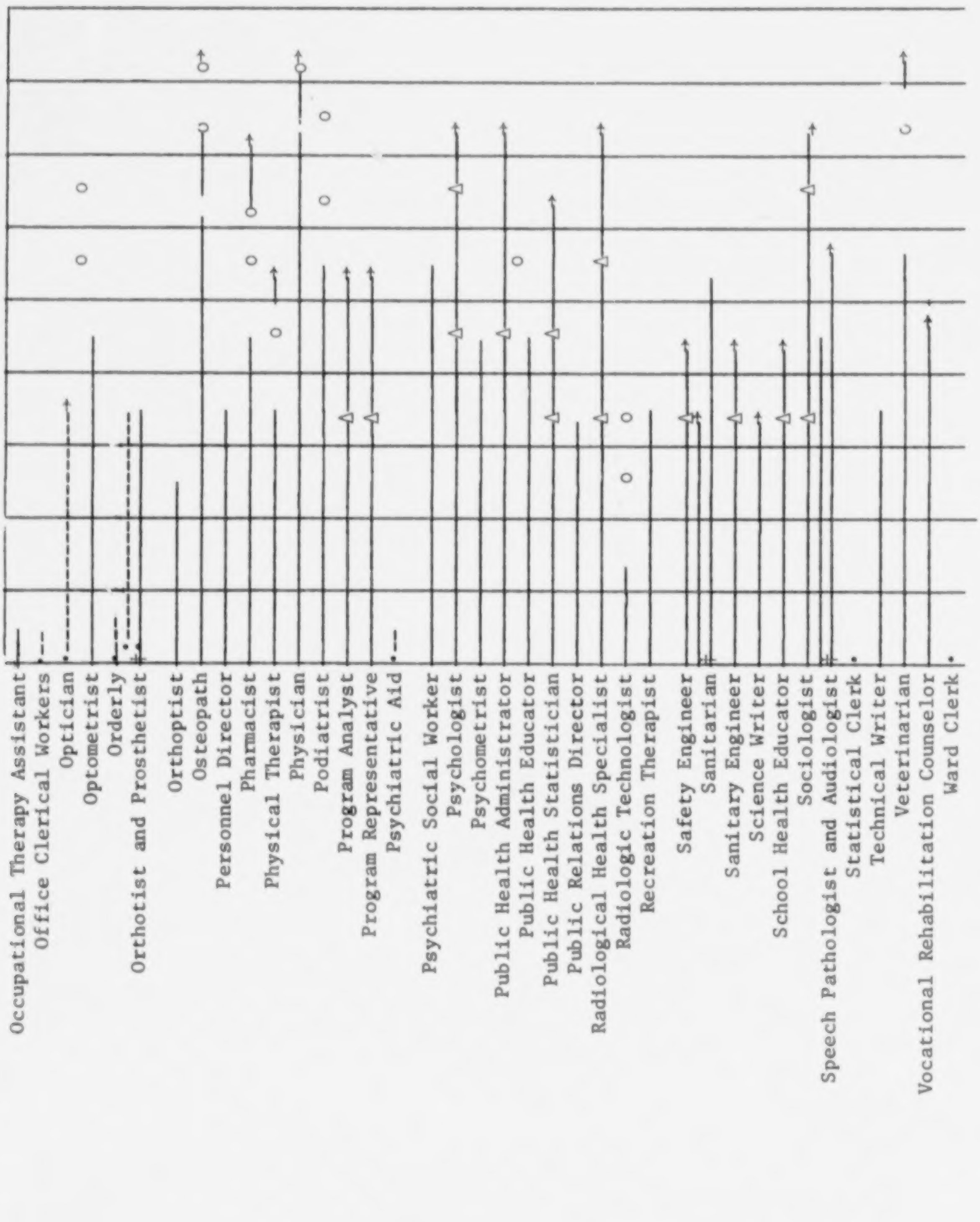
Food Technologist
Health Economist
Health Information Specialist
Health Officer
Histologic Technician
Home Health Aid and Homemaker
Homemaking Rehabilitation Consultant
Hospital Administrator
Hospital Engineer
Hospital Librarian
Hospital Service Workers
Industrial Hygienist
Inhalation Therapist
{⁹m}
Illustrators; Display Artist; Draftsman
Laboratory Technician
Laundry Manager
Local Executive
Manual Arts Therapist
Medical Assistant
Medical Engineering Technician
Medical Engineer
Medical Illustrator
Medical Librarian
Medical Record Librarian
Medical Record Technician
{⁹m}
Medical Secretary
Medical Social Worker
Medical Technologist
Music Therapist
Nurse, Practical
{up to ¹⁸m}
Nurse, Professional
Nurse Aid
Nuclear Medical Technologist
Nutritionist
Occupational Therapist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Occupational Therapy Assistant
Office Clerical Workers
Optician
Optometrist
Orderly
Orthotist and Prosthetist
Orthoptist
Osteopath
Personnel Director
Pharmacist
Physical Therapist
Physician
Podiatrist
Program Analyst
Program Representative
Psychiatric Aid
Psychiatric Social Worker
Psychologist
Psychometrist
Public Health Administrator
Public Health Educator
Public Health Statistician
Public Relations Director
Radiological Health Specialist
Radiologic Technologist
Recreation Therapist
Safety Engineer
Sanitarian
Sanitary Engineer
Science Writer
School Health Educator
Sociologist
Speech Pathologist and Audiologist
Statistical Clerk
Technical Writer
Veterinarian
Vocational Rehabilitation Counselor
Ward Clerk

SCHOOL INTERESTS AND SOME RELATED HEALTH CAREERS

The purpose of this list is to show how school interests (regular subjects and a few that are sometimes considered extracurricular activities) are related to specific health careers. In order to suggest career opportunities that might not otherwise occur to you, examples have been selected mainly from among less familiar health occupations representing a cross-section of educational levels. Those listed are, of course, only a small sample; the same kind of matching can be applied across the board to practically all health careers. More occupations are related to some school interests than to others. Science, in particular, is a major requirement for many health professions--medicine, dentistry, dietetics, nursing, medical technology, pharmacy, and others; and the background provided by high school science courses would be useful almost anywhere in the health field.

SCHOOL INTERESTS	RELATED HEALTH CAREERS
Art	Medical Artist and Illustrator Poster and Display Artist Occupational Therapist
Business and Finance	Administrator and administrative Assistant Controller, Accountant, etc.
Clerical Skills	Business Office Worker Medical Records Librarian Medical Secretary Ward Clerk
Electronics	Computer Programer Computer Operator Electronics Technician Medical Engineer
English and Journalism	Health Educator Librarian (Hospital and Medical) Public Information Specialist Public Relations Officer Science Writer Technical Writer

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Health Careers Guidebook, U.S. Department of Labor.

SCHOOL INTERESTS	RELATED HEALTH CAREERS
Foreign Language	Medical Librarian Translator (of medical and scientific publications)
Home Economics	Dietitian Executive Housekeeper Food Service Worker Homemaking Rehabilitation Consultant Nutritionist
Industrial Arts (wood, metal, electric, etc.)	Hospital Engineer Instrument Maker Maintenance Worker Manual Arts Therapist Medical Engineering Technician Prosthetic Appliance Maker
Mathematics	Biomedical Research Scientist Computer Programer Health Statistician Statistical Clerk
Modelmaking	Exhibits Builder Scientific Model Technician
Music	Music Therapist
Photography	Photographer (research or public information)
Physical Education	Corrective Therapist Physical Therapist Recreation Therapist School Health Educator
Social Studies	Health Economist Health Sociologist Psychologist Public Health Educator Public Health Program Assistant Social Worker
Science	Biologist, Chemist, Physicist, Mathematician, and Engineer in: Basic Research, Environmental Health (including Sanitary Engineer, Sanitarian, Industrial Hygienist, Radiological Health Specialist, etc.) Food and Drug Protection Medical Engineering

AMBULANCE ATTENDANT
(D.O.T. 355.876)

Job Summary

Ambulance attendants accompany and assist the ambulance driver in lifting the patient into and out of the ambulance, wheelchair, or stretcher, and render first aid in emergencies. They are responsible for lay emergency care from the time they first see the victim through transportation and delivery to the care of the physician. They control hemmorrhages by applying a tourniquet or pressure on pressure points; operate aspirators, resuscitators and inhalators; prepare blood plasma for transfusions; apply splints; treat and dress wounds; take temperature, pulse and blood pressure readings; free persons trapped in wreckages. They also assist the ambulance driver in maintaining the ambulance in efficient operating condition by helping with minor mechanical repairs.

Qualifications

1. A combination of education and experience equivalent to graduation from high school.
2. License requirement: possession of an American Red Cross Advanced First Aid Certificate and a valid motor vehicle operator's license.
3. Worker traits:
    a. Motor coordination
    b. Spatial perception
    c. Preference for routine, concrete, organized activities
    d. Ability to perform a variety of duties in all kinds of situations
    e. Ability to communicate with people calmly and efficiently
    f. Ability to prepare simple reports
4. Physical demands and working conditions:
    a. Work is heavy. Lifting of stretcher to carry patients.
    b. Exposure to weather and traffic hazards. Possibility of injury from muscle strains or falls.

Opportunities

This is an entry job. With further experience, promotion to ambulance specialist II and III, assistant ambulance service supervisor, and ambulance service supervisor is possible.

Places of Employment

Hospital: City and County
Civil Service
Private Hospitals

Training Programs

No specialized formal training is required for training of ambulance personnel. Training courses are conducted at hospitals, medical schools, health, police and fire departments. A 2-year associate degree junior college program for allied health personnel involved in emergency medical services is in the developmental stage on the mainland.

Current Salary

$529, starting monthly pay with City and County of Honolulu for Ambulance Service Specialist I
$583, starting salary for Specialist II
$643, starting salary for Specialist III.

Outlook

Expected to be good locally and nationally.

Related High School Subjects

In addition to requirements,
First Aid
Auto Mechanics

Professional Affiliation

none

HEALTH

DENTAL ASSISTANT
(D.O.T. 079.378)

Job Summary

The dental assistant greets the patient as he arrives, seats him, and sets up materials and equipment the dentist will need. He prepares restorative and impression materials at the direction of the dentist, mixes filling materials, and passes instruments. In the laboratory, he may pour impressions, trim models and process and mount radiographs. In the front office, he is the receptionist. He schedules appointments, collects fees, pays bills, and maintains files.

The work of the dental assistant should not be confused with that of dental hygienist. Dental assistants do not perform work in the patient's mouth as dental hygienists do.

Qualifications

1. High school diploma is an asset, necessary for dental assistant training program but not necessarily for on-the-job training.
2. Worker traits
   a. Ability to work well with people and as part of a team
   b. Patience
   c. Manual dexterity
   d. Attentiveness to detail
   e. Clerical skills
3. Physical demands and working conditions
   a. May have to stand for long periods of time
   b. May have to work Saturdays and/or evenings

Promotional Opportunities

After working 1 or 2 years, dental assistants sometimes further their skills by becoming dental hygienists. See dental hygienist.

Current Salary

$300 - $400/ mo.

Places of Employment

Private dental office
Outpatient clinic
State, Federal or private agency
Dental supply house
Medical-dental employment agency

Training Programs

On-the-job training by dentist

Kapiolani Community College
Student Services Center
260 Pensacola St.
Honolulu 96814
Telephone: 531-4654

Professional Affiliation

American Dental Assistants Association
211 East Chicago Ave.
Chicago, Ill. 60611

Honolulu County Dental Assistants Association
Room 291
Alexander Young Bldg.

Employment Outlook

Expected to be excellent through the 70's. Clear trend toward employing more auxiliary personnel and giving them increasingly responsible tasks.

Related High School Subjects

In addition to requirements, typing, speech, psychology, math, science, accounting, office practice and business machines, management and family economics, personality and dress.

DENTAL HYGIENIST
(D.O.T. 078.368)

Job Summary

A dental hygienist works under supervision of a dentist; cleans teeth by removing stains and calcium deposits; polishes teeth and massages gums; charts conditions of decay and disease for diagnosis by the dentist; may also take and develop x-rays, mix filling compounds, apply solutions to teeth to control decay, administer prescribed medicaments, sterilize instruments, and act as chairside assistant; and provide dental health education.

Qualifications

1. Graduation from accredited dental hygiene school
2. Must pass licensing examination of State
3. Worker traits
   a. Ability to work well with people
   b. Patience
   c. Manual dexterity
   d. Attentiveness to detail
4. Physical demands and working conditions
   a. May have to stand for long periods of time
   b. May have to work Saturdays and/or evenings

Promotional Opportunities

None, although those employed in administrative or supervisory positions generally earn higher salaries

Places of Employment

Private dental offices
School System
Health agency
Federal or State government

Current Salary

$529 - $675/mo. (with 2 year education program)

$612 - $781/mo. (with bachelor's degree)

Employment Outlook

Expected to be very good through 70's, locally and nationally. Mature women wishing to return to the field and those who want part-time employment can expect good opportunities for employment.

Training Programs

Dept. of Dental Hygiene
University of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8821
(2 year program)

Professional Affiliation

American Dental Hygienists Association
211 East Chicago Ave.
Chicago, Ill. 60611

Hawaii Dental Hygienists' Association
c/o Dept. of Dental Hygiene
University of Hawaii
Honolulu, Hawaii 96822

Related High School Subjects

In addition to requirements, algebra, plane geometry, human physiology, speech, psychology.
Chemistry is highly recommended.

DENTAL LABORATORY TECHNICIAN
(D.O.T. 712.381)

Job Summary

A dental laboratory technician follows the dentist's written instructions in making many kinds of dental appliances: artificial teeth, crowns, bridges. The technician forms models in hard plaster from impressions of patients' mouth taken by dentists. He also makes metal castings for dentures, finishes and polishes dentures, constructs crowns or inlays for partially destroyed teeth, and makes appliances to correct abnormalities such as cleft palates.

In beginning jobs trainees usually perform the simpler tasks such as mixing and pouring plaster into casts and molds, assuming tasks of more difficulty with experience. Some technicians specialize; others can perform almost all tasks.

A technician uses small handtools, special electric lathes and drills, high-heat furnaces, and other kinds of specialized laboratory equipment.

Qualifications

1. No minimum education is needed, but high school diploma is an asset.
2. Worker traits
   a. High degree of manual dexterity
   b. Good color perception
   c. Patience
   d. Liking for detailed work
3. Physical demands and working conditions
   a. Not strenuous
   b. Can be done by handicapped workers with good use of hands and fingers

Promotional Opportunities

From apprentice or trainee dental laboratory technician to dental laboratory technician to foreman or manager of large dental laboratory.

Current Salary

From minimum hourly wage to $1,500 - $2,000/monthly with many years of specialized experience.

Places of Employment

Commercial Laboratory
Individual dentist's office
Hospital, Federal Government

Training Programs

Mostly on-the-job, usually in a commercial laboratory, dental office, or hospital offering dental services. This kind of training usually lasts 3-4 years.

On the mainland 1 and 2 year programs in dental laboratory technology are available.

Certification program available for technicians meeting certain training and other requirements. Certification may become increasingly important as employers regard it as evidence of competence.

Employment Outlook

Very good locally as well as nationally. Part-time opportunities are good.

Related High School Subjects

In addition to requirements, art, ceramics and pottery, sculpturing, blueprint reading, plastics and metal working.

Professional Affiliation

Hawaii Dental Laboratory Technician Association
c/o Tanabe Dental Laboratory
1279 So. King St.
Honolulu, Hawaii 96814
Telephone: 533-2888

DENTIST
(D.O.T. 072.108)

Job Summary

Most dentists are general practitioners who provide many types of dental care: look for and fill cavities in teeth, straighten teeth, take X-rays of the mouth, treat gum diseases, extract teeth and substitute artificial dentures. Specialists include orthodontists who straighten teeth, oral surgeons who perform operations in the mouth and jaws, periodontists who treat tissues supporting teeth, prosthodontists who make artificial teeth or dentures, pedodontists who treat children, oral pathologists who treat diseases of the mouth, endodontists who do root canal therapy, and public health dentists.

Qualifications

1. License to practice dentistry: to qualify, candidate must be a graduate of an approved dental school and pass a State board examination.
2. Minimum educational requirements for graduation from approved dental school; 2 years of predental college work followed by four years of professional dental school training.
3. Worker traits
    a. Manual dexterity
    b. Good visual memory
    c. Excellent judgment of space and shape
    d. Delicacy of touch
    e. Scientific ability
    f. Liking for people

Current Salary

Mean net income of all dentists in Hawaii, $37,702.
Mean net income of independent dentists in Hawaii, $38,788.
(According to 1971 survey by American Dental Association, this is the highest in the nation.)

Employment Outlook

Expected to be very good through 70's both locally and nationally, though number of men and women who enter the field may be restricted by present limited capacity of dental schools.

Promotional Opportunities

Majority of newly qualified dentists open their own offices or purchase established practices or start in practice with established dentists. Others may enter residency or internship training programs in approved hospitals. Dentists entering the Armed Forces are commissioned as captains in the Army and Air Force and as lieutenants in the Navy and may progress to higher ranks. Civil Service positions are available in the U.S. public Health Service.

Places of Employment

see above

Professional Affiliation

Hawaii Dental Association
Telephone: 536-2135

County Dental Societies
Telephone: 536-2135
(Honolulu County)

Training Programs

Information on dentistry as a career and accredited dental schools may be obtained from:

American Dental Association,
Council on Dental Education
211 East Chicago Ave.
Chicago, Ill. 60611

No local dental school, but predental program is available at the University of Hawaii.

Related High School Subjects

In addition to requirements, speech, psychology, human physiology, algebra 1 & 2, geometry, plane and solid, chemistry, economics

Financial Aid

The Health Professions Educational Assistance Act of 1963, as amended, provides Federal funds for loans and scholarships up to $2,500 a year for qualified students.

DIETITIAN
(D.O.T. 077.081 through .168)

Job Summary

A dietitian plans nutritious and appetizing meals to help people maintain or recover good health. Work includes planning general and modified menus, supervising the personnel who prepare and serve the meals, managing purchases and accounts, and providing guidance on good eating habits.

An administrative dietitian applies the principles of nutrition and management to large-scale meal planning and preparation. A therapeutic dietitian plans and supervises the service of meals to meet the nutritional needs of patients. He discusses food likes and dislikes with patients and notes their food intake. He confers with doctors and instructs patients and their families on diet requirements.

Qualifications

1. Minimum educational requirement is a bachelor's degree with a major in foods and nutrition or institution management.
2. Recommended is the completion of an internship program lasting 12 or 18 months, or 3 years of preplanned experience.
3. Worker traits
    a. Interest and aptitude for sciences, particularly chemistry and mathematics
    b. Ability to organize and manage work programs
    c. Ability to work well with others
    d. Verbal ability for effective communication with patients and staff
    e. Numberical ability to compute dietetic values of food
4. Physical demands and working conditions
   Work is light in physical demands.

Promotional Opportunities

With experience, a dietitian may be promoted to assistant director or director of a dietary department in a large hospital or institution. Graduate education is usually required for higher level positions as well as for administration and public health nutrition.

Places of Employment

- Hospital or related institution
- Federal government
- School system
- Public health agency
- Restaurant or cafeteria
- Armed Forces
- Nursing home

Training Programs

For information on AMA approved programs, write to:

American Dietetic Association
620 North Michigan Ave.
Chicago, Ill. 60611

The University of Hawaii offers a program leading to a Bachelors degree in foods and nutrition, and a Master's degree in public health nutrition. For more information, write to:

Dept. of Food and Nutritional
Science
University of Hawaii
Henke 224-A
Honolulu, Hawaii 96822
Telephone: 944-8236

Employment Outlook

Expected to be very good through the 70's. Opportunities will be favorable for both full-time and part-time employment.

Current Salary

$6,500 - $15,000/year

Related High School Subjects

In addition to requirements, courses in biology, physiology, chemistry, mathematics, psychology.

Professional Affiliaton

American Dietetic Association
Chicago, Illinois

Hawaii Dietetic Association
(for telephone no. of current
president, contact U.H. Dept.
of Food and Nutrition)

HEALTH

ELECTROCARDIOGRAPH TECHNICIAN
(D.O.T. 078.368)

Job Summary

Electrocardiography involves recording the changes of electrical potential occuring during the heartbeat by use of an electrocardiography (ECG or EKG) machine. It is used to diagnose abnormalities in heart action or to record the progress of patients with heart conditions, as well as to provide followup for patients receiving cardio-toxic medications. Electrocardiograph technicians operate the machine and give the recorded tracings to physicians who are qualified in cardiology for analysis and interpretation. Some aspects of this job are similar to that of radiologic technologist.

Qualifications

1. High school graduation with courses in the physical sciences. Some college work is desirable but not required.
2. Three to 6 months on-the-job training under supervision of an experienced technician or cardiologist is the usual way in which the technique is learned.
3. Worker traits
    a. Verbal ability to understand test procedures and explain them to patients
    b. Form perception to compare recorded patterns to characteristics of normal patients
    c. Motor coordination and eye-hand coordination
    d. Finger dexterity
    e. Preference for working with people
    f. Preference for scientific and technical activities
4. Physical demands and working conditions
    a. Light; pushing of electrocardiograph machine (35 lbs.)
    b. Near-visual acuity

Promotional Opportunities

No formal line of promotion
This is an entry job.

Places of Employment

cardiology service of hospital

Training Programs

On-the-job training in hospital.

A 2-year medical assistant program at Kapiolani Community College will also qualify a person for work as an electrocardiograph technician.
For more information contact:

Kapiolani Community College
Student Services Center
620 Pensacola St.
Honolulu, Hawaii 96814
Telephone: 531-4654

Current Salary

$405/mo., starting

Employment Outlook

Expected to be good. Part-time job opportunities are available.

Related High School Subjects

In addition to requirements, courses in physical sciences.

Professional Affiliation

none

INHALATION THERAPIST
(D.O.T. 079.368)

Job Summary

The inhalation therapist is concerned primarily with helping to alleviate respiratory symptoms and associated circulatory disorders. He is prepared to participate in pulmonary function testing, respiratory and cardiac emergencies, care and use of critical care equipment, and departmental administrative duties.

He sets up and operates various types of oxygen and other gas and mist inhalation equipment, such as iron lungs, tents, masks, catheters, and incubators, to administer prescribed doses of medicinal gases and aerosolized drugs to patients. He confers with the patient, explaining treatment and breathing procedures to allay fears, observes the patient during therapy to instruct him in breath control and notifies the medical or nursing staff of adverse reactions. He prepares and maintains a chart for each patient, inspects and tests all inhalation therapy equipment to insure proper operating condition, and orders major repairs.

Qualifications

1. High school graduation plus 6 months' to 1 year on-the-job training under strict supervision; or enrollment in a program of inhalation therapy training.
2. To become a member of the American Registry of Inhalation Therapists, the applicant must meet prerequisites of training and experience and pass oral and written examinations.
3. Worker traits
    a. Verbal ability to understand medical prescriptions and to communicate with patients and staff

- b. Clerical ability to keep accurate charts
- c. Motor coordination and finger dexterity to work with equipment
- d. Preference for working with people
- e. Preference for processes, machines, and techniques
- f. Accuracy to regulate medication and equipment precisely
- g. Ability to deal with variety of duties

4. Physical demands and working conditions
   - a. Medium, involving sitting or standing
   - b. Near-visual acuity
   - c. Occasional exposure to hazards resulting from working with inflammable and explosive gases

Promotional Opportunities

No formal line of promotion

Places of Employment

Clinics
Hospitals
Rest Homes

Current Salary

$600/mo., starting

Employment Outlook

Excellent in Hawaii and on the mainland. Because the field is comparatively new, the demand is greater than the supply.

Related High School Subjects

In additiona to requirements, courses in biology and chemistry.

Professional affiliation

American Association of Inhalation
Respiratory Therapists
332 South Michigan Avenue
Chicago, Ill. 60604

Training Programs

The Associate in Science degree in inhalation therapy is planned for Fall 1972 at Kapiolani Community College. This is a two-year program, but advanced standing is offered those who have had college level courses or who wish to take challenge examinations. Part-time study is available for military and working people. An early admissions program allows high school students to enroll on a space-available basis. Admission requirements include:

1. 18 years minimum age or high school diploma
2. satisfactory performance on aptitude tests
3. transcripts
4. physical examination & chest x-ray

For further information, write to:
Kapiolani Community College
Student Services Center
620 Pensacola St.
Honolulu, Hawaii 96814
Telephone: 531-4654 ext.131

HEALTH

LABORATORY AIDE
(D.O.T. 381.887)

Job Summary

A laboratory aide assists the medical technologist by performing routine duties in the laboratory. He cleans equipment; pours, mixes and measures chemicals to prepare simple stains, solutions and culture media; performs simple laboratory tests under supervision; collects patients' specimens from wards and returns them to laboratory for analysis; assembles equipment used in collecting communicable disease specimens; distributes supplies and laboratory specimens; keeps records and inventory; repairs laboratory apparatus.

Qualifications

1. High school education, preferably including courses in chemistry and bacteriology.
2. Experience is not essential, although worker usually requires approximately 2 months' training in a clinical laboratory.
3. Worker traits
    a. Finger dexterity
    b. Manual dexterity
    c. Preference for activities dealing with things and objects
    d. Preference for routine, organized activities
    e. Preference for working under close supervision
    f. Accuracy
4. Physical demands and working conditions
    a. Light in terms of physical demands
    b. Walking and standing most of the day
    c. Near-visual acuity
    d. Worker is subject to unpleasant laboratory odors and to danger of burns and cuts from apparatus.

Training Programs	Current Salary
One-the-job training in a clinical laboratory	$400 +/mo., starting

Promotional Opportunities

This is an entry job. No formal line of promotion. With further education and experience, possible advancement to medical laboratory assistant, technician, technologist.

Places of Employment

Hospital
Independent laboratory
Physician's office
Clinic
Public Health agency
Pharmaceutical firm
  (mainland)
Research institution
Federal government

Employment Outlook

Expected to be excellent through 70's nationally. Local outlook is dependent on expansion in hospital services and health care demand.

Related High School Subjects

In addition to requirements, courses in science, such as chemistry and bacteriology, and mathematics

LABORATORY ASSISTANT
(D.O.T. 078.381)

Job Summary

A medical laboratory assistant assists the medical technologist by performing simple, routine tests and related work that can be learned in a relatively short time. In a large laboratory an assistant may concentrate in one of several areas of lab work, such as bacteriology, serology, parasitology, hematology. In a small lab the assistant works in many areas. In addition to routine laboratory tests, the assistant may store and label plasma; clean and sterilize laboratory equipment, glassware and instruments; prepare solutions; keep test records; and identify specimens.

Qualifications

1. High school graduate
2. On-the-job training or training program conducted by hospitals or vocational schools and junior colleges in cooperation with hospitals
3. Certification by American Society of Clinical Pathologists as CLA (Certified Lab Technician)
4. Worker traits
    a. Accuracy, dependability, and ability to work under pressure
    b. Form perception
    c. Finger and manual dexterity
    d. Color discriminacion
    e. Preference for working with things and objects
    f. Preference for technical activities
5. Physical demands and working conditions
    a. Light in terms of physical demands
    b. Near-visual acuity
    c. Color vision
    d. Exposure to infection from disease-bearing specimens and odorous chemicals.

Promotional Opportunities

Advancement to medical laboratory technician is possible with experience and/or further education. Advancement to medical technologist is possible with a bachelor's degree in biology or chemistry or certificate or degree in medical technology.

Places of Employment

Hospital
Independent laboratory
Physician's office
Clinic
Public Health Agency
Pharmaceutical Firm
Research Institution
Federal government

Training Programs

Young people interested in a medical laboratory career should select a training program with care. Many medical laboratory assistants receive their training on the job. There is a trend towards academic training programs conducted by hospitals or junior colleges, however. Hospitals offer the greatest number of programs, some of which were established under the Manpower Development and training Act and the Vocational Education Act. For entry into these programs, high school graduation with courses in mathematics and science is required. The programs are generally 1 year.

For information write to:

American Society of Medical Technologists
Suite 1600, Hermann Professional Bldg.
Houston, Tex. 77025

Current Salary

$5,400, average annual starting salary nationally
$4,700 starting salary in Hawaii (State Civil Service)
$5,400 possible starting salary in Hawaii, private hospital

Employment Outlook

Expected to be excellent through 70's nationally. Opportunities for part-time employment and for qualified older or handicapped workers should be good. Locally outlook is dependent on expansion in hospital services and health care demand.

Related High School Subjects

In addition to requirements, courses in mathematics and science.

Professional Affiliation

Board of Certified Laboratory
Assistants
9500 South California Avenue
Evergreen Park, Ill. 60642

Job Summary

A medical laboratory technician has a combination of education and experience to perform tasks that require a higher level of skill than is required for routine work done by assistants but which do not involve the technical knowledge of the highly trained medical technologist. A technician may work as a generalist in several fields or may specialize.

Qualifications

1. Graduation from high school
2. Two years of post-secondary education in junior or 4-year college; or training program in private or non-profit vocational school; or training program in Armed Forces
3. Certification by Board of Certified Laboratory Assistants is important.
4. License from State Board of Health
5. Worker traits
    a. Accuracy, dependability, and ability to work under pressure
    b. Form perception
    c. Finger and manual dexterity
    d. Color discrimination
    e. Preference for working with things and objects
    f. Preference for technical activities
6. Physical demands and working conditions
    a. Light in terms of physical conditions
    b. Near-visual acuity
    c. Color vision
    d. Exposure to infection from disease-bearing specimens and odorous chemicals.

Promotional Opportunities

Advancement to medical technologist is possible by continuing education to obtain a bachelor's degree in biology or chemistry, or a degree or certificate in medical technology.

Current Salary

$600 - $650/mo., starting in Hawaii

Places of Employment

Hospital
Independent laboratory
Physician's office
Clinic
Public Health agency
Pharmaceutical firm
Research institution
Federal Government

Employment Outlook

Expected to be excellent through 70's. Opportunities for part-time employment and for qualified older or handicapped workers should be good.

Related High School Subjects

In addition to requirements, science and mathematics courses

Training Programs

A 2-year program for medical laboratory technician, leading to an associate in Science degree, is proposed to begin in fall 1972 at Kapiolani Community College. Advanced standing is offered those who have had college level courses. For further information write to:

Kapiolani Community College
Student Services Center
620 Pensacola St.
Honolulu 96814
Telephone: 531-4654

Information about programs meeting standards recognized by the medical profession and the U.S. office of Education may be obtained from:

American Society of Medical Technologists
Suite 1600, Hermann Professional Bldg.
Houston, Tex. 77025

MEDICAL ASSISTANT
(D.O.T. 079.368)

Job Summary

A medical assistant is a person trained to do office work, patient care, routine laboratory and x-ray procedures under the supervision of a licensed physician. The medical assistant prepares patients for examination, performs routine laboratory tests, receives and makes patient appointments, completes medical insurance and business forms, keeps medical records, and helps with the many administrative and technical details of medical practice. A trained medical assistant may also work as an electrocardiograph technician and a medical records technician.

Qualifications

1. High school graduation or 18 years and older
2. Worker traits
   a. Verbal ability to understand instructions and communicate with patients
   b. Clerical ability to keep accurate records
   c. Preference for working with people
   d. Ability to deal with variety of duties

Promotional Opportunities

No formal line of promotion

Places of Employment

Hospital
Clinic
Physician's office
Insurance office
Other health agencies
Pharmaceutical companies

Current Salary

$450 - $479/mo., starting in Hawaii
$539 - $580 after 1 year experience

Employment Outlook

Excellent in Hawaii and on the mainland. Not enough graduates to fill demand because medical assisting program is new to Hawaii.

Training Programs

A medical assistant's program is available at Kapiolani Community College, leading to an Associate of Science degree upon satisfactory completion of the two-year program. Admission requirements include:

1. high school diploma
2. application
3. placement examination
4. physical examination
5. transcripts

For more information, write to:
Kapiolani Community College
Student Services Center
620 Pensacola St.
Honolulu, Hawaii 96814
Telephone: 531-4654

Related High School Subjects

In addition to requirements, mathematics, natural sciences, typing and bookkeeping

Professional Affiliation

American Association of Medical Assistants (Hawaii Branch)
Mrs. Doris Kagihara
Telephone: c/o Dr. T. Frissel 949-4902

MEDICAL RECORD ADMINISTRATOR
(D.O.T. 100.388)

(Formerly called Medical Record Librarian)

Job Summary

A medical record librarian plans, prepares, maintains, and analyzes records and reports on patients' illnesses and treatments. The librarian assists medical staff members in research projects; develops auxiliary records; compiles statistics; makes abstracts or summaries of medical records; develops systems for documenting, storing and retrieving medical information; directs the activities of the medical record department and auxiliary personnel.

A medical record librarian should not be confused with a medical librarian, who administers and maintains a library containing medical books, reports, journals, and bibliographic tools.

Qualifications

1. Graduation from approved school in medical record science
2. Ability to meet requirements for registry with American Association of Medical Record Librarians as Registered Record Administrator
3. Worker traits
    a. Accuracy and interest in detail
    b. Ability to communicate clearly in speech and writing
    c. Discretion in processing and releasing medical information
    d. Ability to organize and analyze work procedures
    e. Ability to work effectively with other personnel

Current Salary

$9,500 annual median of 12 registered medical record administrators in Hawaii

Employment Outlook

Expected to be excellent through 70's nationally.

Locally, field is changing rapidly. Opportunities are available but turnover in present jobs is fairly low.

Promotional Opportunities

With experience a medical record librarian may occupy a supervisory or administrative position. He may serve as assistant director or director of a single department or become the medical record coordinator of departments of different hospitals.

Training Programs

Programs approved by the American Meidcal Association and offering training in medical record library science or medical record administration are available in colleges and hospitals. The specialized academic training program is about a year in length, but may require a pre-requisite of 2-4 years of college work.

For more information, write to:

American Association of Medical Record Librarians
211 East Chicago Avenue
Chicago, Ill. 60611

Places of Employment

Hospital
Clinic
Medical research center
Nursing home or other extended care facility
Medical department of insurance company or industrial firm
Local and State health department

Related High School Subjects

In addition to requirements, courses in biology, physiology, mathematics, office management, typing, business.

Professional Affiliation

Hawaii Medical Records Association (Call a local hospital, Medical Record Dept., for current contact source of more information.)

MEDICAL RECORD TECHNICIAN
(D.O.T. 249.388)

Job Summary

A medical record technician assists the medical record librarian and performs technical tasks associated with the maintenance and use of medical records.

Qualifications

1. High school graduation plus graduation from accredited school for Medical Record Technicians
2. Successful completion of accreditation examination
3. Worker traits
   a. Verbal ability to understand medical reports and to abstract information
   b. Numerical and clerical ability
   c. Preference for scientific and technical activities in reviewing reports, coding, indexing, abstracting
   d. Accuracy
4. Physical demands and working conditions
   Sedentary work

Promotional Opportunities

Some places employ several levels of medical-record technicians and promotion is from lower to higher level through addition of administrative and supervisory duties.

Places of Employment

Hospital
Clinic
Medical research center
Nursing home or other extended care facility
Medical department of insurance company or industrial firm
Local and State health department

Current Salary

$7,675, annual median of 10 accredited Record Technicians in Hawaii

Employment Outlook

Expected to be excellent through 70's nationally.
Locally, opportunities are available, although turnover in present jobs is low.

Training Programs

Associate degree programs in junior colleges require 2 years of study. Hospital-based programs require 9-10 months. An approved home study correspondence course conducted by the American Association of Medical Record Librarians is open to persons employed in medical record work who are high school graduates.

For more information write to:

American Associaton of Medical Record
Librarians
211 East Chicago Avenue
Chicago, Ill. 60611

Related High School Subjects

In addition to requirements, courses in biology, physiology, mathematics, office management, typing

Professional Affiliation

Hawaii Medical Records Association
(call a local hospital,
Medical records department for current contact source of more information)

MEDICAL SOCIAL WORKER
(D.O.T. 195.108)

Job Summary

Medical social workers help patients and their families with personal and environmental difficulties which interfere with recovery from illness. They may be either caseworkers or group workers. They interview patients and family members to obtain information about home environment, family relationships and health history, and patients' personality traits. They participate as team members in conferences with other hospital or agency staff. They help patients and their families understand, accept and follow medical recommendations. They perform a variety of services such as advising on problems, arranging for discharge or postoperative care at home or in institutions, placement of children in foster homes or adults in nursing home, financial assistance, and alleviation of fears and anxieties about illness.

Qualifications

1. Master's degree from approved school of social work
2. Social workers without work experience will work under close supervision for approximately 2 years before being considered fully qualified. Two years' casework experience in health institutions, child welfare agencies, psychiatric clinics, and family counseling service is preferred.
3. One to 3 months' orientation in individual hospital's methods and policies is required for all new employees regardless of prior experience.
4. Worker traits
    a. Verbal ability to understand medical and psychiatric terminology and principles and to communicate with people of diverse backgrounds, as well as to prepare reports and evaluate plans
    b. Interest in working with people who have medical problems
    c. Interest in business contacts with persons and agencies that can contribute to a program of alleviating patients' problems
    d. Emotional stability
    e. Ability to work as member of a team

5. Physical demands and working conditions
   a. Work is primarily sedentary but may involve walking to and from different departments.
   b. Work is indoors but worker may be required to drive a car to interview patients and families.

Promotional Opportunities

With experience advancement is possible to social work supervisor or director.

Training Programs

The University of Hawaii School of Social Work offers a two-year graduate program leading to the M.S.W. degree. It also offers courses on the undergraduate and preprofessional levels for juniors and seniors. For specific information on admission requirements, write to:

School of Social Work
University of Hawaii
1395 Lower Campus Road
Honolulu, Hawaii 96822

Employment Outlook

Expected to be excellent through the 70's nationally.
Locally, jobs with the State Government at present are scarce.

Current Salary

$6,300/year, starting (State government)

Related High School Subjects

In addition to requirements, a college preparatory curriculum

Professional Affiliation

National Association of Social Workers
2 Park Avenue
N.Y., N.Y. 10017

Places of Employment

Public and private mental hospitals
Community mental health centers
Hospitals
Agencies serving families and children

Financial Assistance and List of Accredited Schools

Comprehensive information is available in the booklet, Social Work Fellowships and Scholarships in the United States and Canada. Write to:

Council on Social Work Education
345 East 16th Street
N.Y., N.Y. 10017

MEDICAL TECHNOLOGIST
(D.O.T. 078.281)

Job Summary

A medical technologist performs the more complicated chemical, microscopic, and bacteriological tests and procedures which are an important part of the detection, diagnosis and treatment of diseases. A technologist who works in a small laboratory often performs many types of tests. Those employed in large laboratories usually specialize in certain areas, such as blood banking or nuclear medical technology. Some medical technologists do research on new drugs or the improvement of laboratory techniques or teach or perform administrative duties.

Qualifications

1. Three years of college with courses in biology, chemistry and mathematics plus 1 year of training in a school of medical technology approved by the American Medical Association, or a 5-year program in medical technology
2. Registration as a Medical Technologist by the Registry Board of the American Society of Clinical Pathologists
3. License issued by the Board of Health
4. Worker traits
    a. Accuracy, dependability, and ability to work under pressure
    b. Numerical ability to calculate test results using standard formulas and to measure prescribed quantities of samples during tests
    c. Form perception to notice pertinent details of specimens under microscopic study
    d. Color discrimination to stain slides and distinguish shades and colors of specimens
    e. Preference for scientific and technical activities carried out according to procedures
    f. Keen judgment to evaluate information against measurable criteria in the performance of tests
5. Physical demands and working conditions
    a. Work is light in terms of physical demands.
    b. Near-visual acuity is necessary.
    c. Color vision is important.

Promotional Opportunities

Promotion to supervisory positions in certain areas of laboratory work or to chief medical technologist in a large hospital is possible with experience. Graduate education in chemistry or a biological science usually speed advancement.

Places of Employment

Hospital
Independent laboratory
Physician's office
Clinic
Public health agency
Pharmaceutical firm
Research institution
Federal government

Current Salary

$450 - $966, monthly salary range in Hawaii

Employment Outlook

Expected to be excellent through 70's nationally and locally. Especially strong demand is anticipated for technologists who have graduate training in biochemistry, microbiology, immunology, and virology.

Related High School Subjects

In addition to requirement, courses in science and mathematics

Professional Affiliation

Hawaii Society of Medical Technologists

Training Programs

For information on education and training, write to:

American Society of Medical Technologists
Suite 25, Herman Professional Bldg.
Houston, Texas 77025

The medical technology program at the University of Hawaii leads to a bachelor of science degree in medical technology. An interning year leading to registration with the National Registry of Medical Technologists follows graduation and is spent in an American Medical Association-approved hospital here or on the mainland.

For information on admission and degree requirement, write to:

Admissions Office
University of Hawaii School of Medicine
1960 East-West Road
Honolulu, Hawaii 96822

Beginning in August 1972, Kapiolani Community College will offer a 2-year medical technician program, leading to an A.S. degree. For further information, contact:

Kapiolani Community College
Student Services
620 Pensacola St.
Honolulu, Hawaii 96814
Telephone: 531-4654

Unions to Which One Normally Belongs

none

NURSE AIDE
(D.O.T. 355.878)

Job Summary

A nurse aide assists registered and practical nurses by performing less skilled tasks in patient care: answers signal lights and bells to determine patient's needs; bathes, dresses and undresses patients and assists with personal hygiene to increase comfort and well-being; serves and collects food trays; feeds patients needing help; transports patients to treatment units; takes and records temperatures, pulse, respiration rates and food intake and output; gives alcohol rubs; reports unusual conditions to nurse in charge; may assemble equipment and supplies for diagnostic or treatment procedures; changes bed linen.

Qualifications

1. High school education preferred
2. Worker traits
    a. Preference for performing services of benefit and help
    b. Ability to perform activities characterized by change and short duration in caring for patients
    c. Ability to work with ill people
    d. Manual dexterity
    e. Verbal ability to communicate with patients and staff
3. Physical demands and working conditions
    a. Standing and walking most of the time on duty
    b. Lifting and pushing patients, carts, wheelchairs
    c. Good eyesight for reading of gauges and thermometers

Promotional Opportunities

This is an entry job in the department of nursing. No formal line of promotion. With further education and training, a nurses' aide may become a licensed practical nurse or a registered nurse.

Current Salary

$369 - $400/month, starting

Places of Employment

Hospitals
Nursing care institutions
Private home
Clinic

Training Programs

Hospital on-the-job training programs
Kapiolani Community College
  240 hours of training in eight weeks
  For more information, contact:
  Kapiolani Community College
  Student Services Center
  620 Pensacola St.
  Honolulu, Hawaii 96814
  Telephone: 531-4654, ext. 131

Employment Outlook

Excellent nationally and locally. Demand is strong at present.

Related High School Subjects

Speech, psychology or family living, mathematics, biology, family foods, child care and development, typing

Professional Affiliation

none

HEALTH

NURSE, LICENSED PRACTICAL
(D.O.T. 079.378)

Job Summary

Under the direction of the head nurse, a licensed practical nurse performs nursing procedures for the comfort and well being of patients, such as helping in admission of new patients; bathing and feeding patients; making beds; taking temperature, blood pressure, pulse and respiration readings and recording them on charts; collecting urine and blood specimens; dressing wounds; performing drainage, irrigation, and catheterization procedures; sterilizing equipment and supplies; assisting a registered nurse or physician in advanced medical treatments; and assisting in care of deceased persons.

A licensed practical nurse may specialize in the work of a particular patient care unit and be known by the name of that unit, such as recovery room licensed practical nurse or psychiatric licensed practical nurse.

Qualifications

1. High school graduation plus graduation from recognized 1 year practical nurse program
2. Passing State Board of Nursing licensing examination
3. Worker traits
    a. Preference for performing services of benefit and help
    b. Ability to perform activities characterized by change and short duration in caring for patients
    c. Ability to work with ill people: patience, understanding, emotional stability, dependability
    d. Manual dexterity
    e. Form perception, necessary to observe detail when reading thermometers and blood-pressure devices and observing patient's condition
    f. Verbal ability to understand instructions and limited medical terminology; to communicate with patients and staff; to help keep accurate medical records

4. Physical demands and working conditions
    a. Standing and walking most of time on duty
    b. Occasionally lifting patients with assistance
    c. Frequent reaching and handling of equipment
    d. Manual dexterity
    e. Good eyesight for reading of gauges and thermometers

Promotional Opportunities

Through in-service educational programs, some LPN's may prepare for work in specialized areas, such as rehabilitation. An LPN can become a registered nurse with additonal schooling.

Places of Employment

Hospitals
Nursing homes
Clinics
Doctor's Office
Sanitariums
Public health agencies

Training Programs

Kapiolani Community College
(1 school year program)
Student Services
620 Pensacola St.
Honolulu, Hawaii 96814

Current Salary

$336 - $765/month in Hawaii

Employment Outlook

Excellent, expected to continue to be in strong demand locally. Employment is expected to continue to rise rapidly through 70's nationally.

Related High School Subjects

Speech, psychology or family living, mathematics, biology, family foods, child care and development, chemistry, typing, management and family economics

Professional Affiliation

National Federation of Licensed
Practical Nurse
250 West 57th Street
New York, N.Y. 10019

National Association for
Practical Nurse Education
and Service, Inc.
535 Fifth Avenue
New York, N.Y. 10017

LPN Association of Hawaii

NURSE, REGISTERED
(D.O.T. 075.118 through .378)

Job Summary

In carrying out medical treatment plan prescribed by physician, a registered nurse administers medication and treatment; observes, evaluates, and records symptoms, reactions and progress of patients; assists in education and rehabilitation of patients; helps maintain a physical and emotional environment which promotes patient recovery; instructs auxiliary personnel.

Qualifications

1. Graduation from high school and school approved by State board of nursing
2. Must pass State Board of Nursing licensing examination with score of 350 or more in each test
3. Worker traits
    a. Preference for performing services of benefit and help
    b. Preference for scientific and technical activities, for understanding and responding to medical problems and concepts
    c. Ability to work with ill people; patience, understanding, emotional stability, dependability
    d. Motor coordination and manual dexterity
    e. Verbal ability to understand patients' charts, doctors' orders, nursing care plan and medication orders and to communicate with patients and staff
    f. Ability to perform variety of duties characterized by frequent change as work schedules change frequently
    g. Ability to work intimately with patients, doctors, nursing staff, and families of patients
4. Physical demands and working conditions
    a. Walking and standing most of time on duty
    b. Occasional lifting of patients with assistance
    c. Frequent reaching and handling of equipment
    d. Acute hearing to distinguish differences in heartbeat and breathing
    e. Good eyesight for reading gauges and dials on equipment
    f. Color vision for perceiving changes in patient's skin color and colors of medicines and solutions

Promotional Opportunities

With experience, promotion to progressively more responsible supervisory positions, such as head nurse, supervisor, assistant director and director of nursing service. Master's degree, however, usually is required for supervisory and administrative positions, as well as for positions, in nursing education, clinical specialization and research.

Places of Employment

Hospitals
Doctor's offices
Clinics
Private homes
Nursing homes
Sanitariums
Public health agency
of the government
Schools
Industry

Training Programs

1. Diploma program on mainland: Conducted by hospitals and independent schools, requiring usually 3 years of training
2. Associate degree program: requires approximately 2 years. Contact:

   Dept. of Technical Nursing
   University of Hawaii
   Honolulu, Hawaii 96822
   Telephone: 944-8556

Current Salary

$700/month, starting in hospitals in Hawaii
$565/month, starting in doctor's office in Hawaii
$612/month, starting with Hawaii State Government

Employment Outlook

Expected to be good through 70's. For nurses with graduate education, excellent outlook nationally for obtaining positions as administrators, teachers, clinical specialists, public health nurses, and in research

Related High School Subjects

In addition to requirements, speech, psychology of family living, mathematics, biology, family foods, child care & development, career development, chemistry, typing, management and family economics

Financial Aid

Qualified students may obtain a nursing educational opportunity grant or a low-interest loan under the Nurse Training Act of 1964. Up to 50% of the loan may be cancelled at the rate of 10% for each year of full-time employment in nursing after graduation. Also available are traineeship funds to cover tuition, fees, stipend and allowance for nurses seeking advanced training.

Training Program con't

3. Associate degree program:
   Maui Community College
   310 Kaahuamanu Ave.
   Kahalui, Hawaii 96732
   Telephone: 244-9181

4. Baccalaureate degree program: 4 years of study in college or university. Contact:

   Dept. of Professional Nursing
   University of Hawaii
   Honolulu, Hawaii 96822
   Telephone: 944-8524

Professional Affiliation

American Nurses' Association
10 Columbus Circle
New York, N.Y. 10019

National League for Nursing
10 Columbus Circle
New York, N.Y. 10019

Hawaii Nurses Association
510 So. Beretania St.
Honolulu, Hawaii 96813

OCCUPATIONAL THERAPIST
(D.O.T. 079.128)

Job Summary

An occupational therapist plans and directs educational, vocational and recreational activities to help mentally and physically disabled patients become self-sufficient. He works as a member of a medical team which includes a physician, physical therapist, vocational counselor, nurse, social worker and other specialists. Treatment may include regaining physical, mental or emotional stability; developing self-sufficiency in the routine of daily living and performing jobs in a practical work situation for return to employment.

An occupational therapist teaches manual and creative skills, such as weaving, clay modeling and leatherworking, as well as business and industrial skills.

Qualifications

1. Graduation from an accredited college with a 4-year course leading to a Bachelor of Science degree in occupational therapy
2. Certification by the Board of Registry of the American Occupational Therapy Association
3. Up to 6 months' on-the-job training to become familiar with hospital facilities and regulations, doctors' techniques, and department procedures
4. Worker traits
    a. Preference for working with people and communicating ideas
    b. Preference for abstract and creative activities
    c. Verbal ability to instruct patients, prepare case reports, and become familiar with medical terminology
    d. Motor coordination, manual and finger dexterity
    e. Spatial and form perception
    f. Color discrimination
    g. Ability to handle variety of duties which may be interrupted and changed by immediate circumstances
    h. Ability to direct, control, and plan occupational therapy programs and adjust them as patients' conditions change

   i. Ability to deal with people in actual job duties by encouraging patients and discussing their progress with members of therapy team
   j. Emotional stability
   k. Ability to teach

5. Physical demands and working conditions

   a. Light work
   b. Lifting and carrying supplies weighing up to 20 lbs, and assisting and lifting handicapped patients
   c. Sitting and walking intermittently during work shift

Promotional Opportunities

With experience a staff therapist may qualify as senior therapist. Promotion is possible to director of an occupational therapy program coordinator or consultant. A graduate degree is often required for teaching, research or administrative work.

Places of Employment

Hospital
Rehabilitation center
Custodial care and nursing home
School
Out-patient clinic
Community mental health center
Research center
Sanitarium
Camp for handicapped children
State health department
Home care program
Armed Forces

Training Programs

For information on bachelor's degree programs, write to:

American Occupational Therapy
Association
251 Park Avenue South
N.Y., N.Y., 10010

Current Salary

Nationally, $6,500 - $13,000/year for staff therapist
$15,000/year for administrators
Locally, salary range is $7,300 - $16,000/year with state government

Employment Outlook

Expected to be excellent through the 70's. Nationally, opportunities for experienced women wanting to return to work part-time after rearing children should be excellent.

Locally opportunities with the State government are limited at present.

Related High School Subjects

In addition to requirements, psychology, biology, physiology, chemistry, speech, mathematics, ceramics, art, typing, general business

Professional Affiliation

American Occupational Therapy
Association
New York, N.Y.

Occupational Therapists Association
of Hawaii
c/o Mabel Smyth Building
Honolulu, Hawaii 96813

HEALTH

OCCUPATIONAL THERAPY AIDE
(D.O.T. 079.368)

(Called PARAMEDICAL ASSISTANT
in State Civil Service System)

Job Summary

An occupational therapy aide assists the occupational therapist in administering a program to assist in the rehabilitation of patients. He uses arts and crafts activities; organizes patients into groups and helps them with assigned projects; instructs patients in the use of tools and equipment; develops patients' interest and morale; observes and evaluates patients' progress.

Qualifications

1. High school graduation
2. Hospital experience preferred
3. Worker traits
    a. Verbal ability to communicate with patients and work with reports
    b. Spatial and form perception
    c. Motor coordination and manual and finger dexterity
    d. Color discrimination
    e. Preference for working with people and communicating ideas
    f. Ability to undertake a variety of changing duties
    g. Ability to work under specific instructions but to use initiative and judgment
    h. Ability to work with wide variety of patients
4. Physical demands and working conditions
    a. Light work. Lifting and carrying of supplies weighing up to 20 pounds.
    b. May lift and carry child patients, and assist in transfer of patients in wheelchairs or other devices.

Promotional Opportunities

This is an entry job. Advancement to occupational therapist demands further education.

Current Salary

$394/month, starting (Hawaii State Government)

Places of Employment

Hospital
Rehabilitation center
Custodial care and nursing home
School
Out-patient clinic
Community mental health center
Research center
Sanitarium
Camp for handicapped children
State health department
Home care program
Armed Forces

Training Programs

Worker receives on-the-job training in methods and procedures.

Related High School Subjects

In addition to requirements, courses in psychology, biology, speech, ceramics, art, typing, mathematics

Employment Outlook

Expected to be excellent through 70's nationally. Locally, positions with the State Government are limited for O.T. aides specifically. However, there will probably continue to be a good demand for paramedical assistants in general.

Professional Affiliation

none

For more information, contact:

Hawaii State Dept. of Personnel Service
825 Mililani St. 4th Flr.
Telephone: 548-2211

Occupational Therapists Assoc. of Hawaii
c/o Mabel Smyth Building
Honolulu, Hawaii 96813

OPTOMETRIST
(D.O.T. 079.108)

Job Summary

An optometrist helps people improve and protect their vision. He examines eyes, makes tests to determine defects in vision, prescribes glasses, contact lenses, corrective eye exercises and any other treatment not requiring drugs or surgery.

An optometrist should not be confused with an opthalmologist, who is a physician specializing in eye diseases and injuries, who performs surgery and prescribes drugs or other treatment.

An optometrist also should not be confused with a dispensing optician, who fits and adjusts eyeglasses according to the prescriptions of an opthalmologist or optometrist.

Qualifications

1. Graduation from accredited school of optometry, passing State board examination, and a license to practice. At least 6 years of college are needed to become an optometrist: 2 years of preoptometry education and 4 years of training in optometry school.
2. Worker traits
   a. Liking for mathematical and scientific work
   b. Ability to use delicate precision instruments
   c. Mechanical aptitude
   d. Good vision
   e. Ability to deal tactfully with people
3. Working Conditions

   Since work is not strenuous, practice beyond normal retirement age is possible.

Promotional Opportunities

Optometrists wishing to specialize often take advanced graduate training. A master's or Ph.D. in physiological optics or a related field is usually required for teaching and related work.

Places of Employment

Opportunities to establish new private practice are usually best in small towns and residential areas of cities where the optometrist can become known quickly. A good location may also be an area with many older people and white collar workers, the groups most likely to need glasses.

Armed Forces
Teaching in colleges of optometry (not available locally)
Health clinics
Hospitals
Optical instrument manufacturers (not available locally)

Employment Outlook

Expected to remain favorable through the 70's because of anticipated population increase locally and nationally.

Related High School Subjects

In addition to requirements, mathematics, physics, biology, physiology, chemistry, psychology.

Current Salary

$8,000 - $19,000/year depending on experience, specialization, location

New private practitioners generally earn less at first than those who take salaried positions, but the situaion reverses after a few years of experience. Private practitioners can expect to earn more than $8,000 - $10,000 a year.

Training Programs

A student may enter the pre-medical program at the University of Hawaii and then transfer to a school of optometry on the mainland. For more information contact:

Admissions Office
University of Hawaii School of Medicine
1960 East-West Road
Honolulu, Hawaii 96822

Hawaii Optometric Association

American Optometric Association
7000 Chippewa St.
St. Louis, Mo. 63119

Professional Affiliation

American Optometric Association
700 Chippewa St.
St. Louis, Mo. 63119

Hawaii Optometric Association
(Contact any optometrist listed in yellow pages as belonging to the American and Hawaii Optometric Associations.)

ORDERLY
(D.O.T. 355.878)

Job Summary

Orderlies assist the nursing service personnel by performing a variety of duties for patients and certain heavy duties in the care of the physically or mentally ill and the mentally retarded. Duties are similar to those of nursing aide.

Qualifications

1. High school graduation preferred
2. Worker traits
   a. Verbal ability to communicate with patients and to understand instructions from nurse
   b. Manual dexterity
   c. Preference for performing services of benefit and help
   d. Ability and preference for routine and organized activities
3. Physical demands and working conditions

   Heavy, involving standing and walking most of the time; lifting and carrying equipment and patients; pushing and pulling wheelchairs, bed or stretchers.

Promotional Opportunities

This is an entry job. No line of promotion.

Places of Employment

Hospital and medically oriented institutions

Training Program

Hospital-conducted on-the-job training

Current Salary

$400 + month, starting in Hawaii

Employment Outlook

Expected to be in demand nationally and locally

Professional Affiliation

none

HEALTH

PARAMEDICAL ASSISTANT
(Nurse aide, occupational therapy aide, psychiatric aide, etc.)

Job Summary

Paramedical assistants help care for patients in hospitals, institutions or clinics. They are members of a treatment or nursing team and provide services like the following:

1. Personal care services - helping patients in bathing and feeding and looking after their comfort and welfare
2. Adjunctive services - providing recreational or other leisure time activities
3. Therapeutic services - applying treatment measures in preventing or relieving physical or mental disorders

Qualifications

1. No experience required
2. With the State Civil Service System, applicants must meet the minimum qualification and other public requirements and qualify on a written competitive examination to test general aptitude.
3. Worker traits
   a. Patience
   b. Tact
   c. Even temperament
   d. Preference for working with people
   e. Productive work habits

Promotional Opportunities

Paramedical Assistant II

Paramedical Assistant III

Professional Affiliation

none

Current Salary

$394/month, starting with State Government

Employment Outlook

Good nationally and locally.

Places of Employment

Hospitals
Clinics
Health Centers
Other medically oriented institutions

Training Programs

One-the-job training in basic patient care and therapeutic procedures

Further Information

Contact:

State of Hawaii
Department of Personnel Services
825 Mililani St.
Honolulu, Hawaii 96813
Telephone: 548-2211

PHARMACIST
(D.O.T. 074.181)

Job Summary

A pharmacist dispenses drugs and medicines and provides information on their use. He dispenses both prescriptions ordered by physicians and non-prescription drugs. He must understand the use, composition, and effect of drugs and be able to test them for purity and strength.

Some pharmacists have sales and managerial as well as professional duties: buying and selling merchandise, hiring and supervising personnel, overseeing operations. In hospitals pharmacists advise the medical staff on the selection and effects of drugs. Clinical pharmacists work in patient care areas as active members of the medical team.

Some pharmacists work as medical sales representatives who sell medicines to pharmacies and inform pharmacists, dentists, doctors and nurses about new drugs. Others teach, do research, develop new drugs, write or do administrative work.

Qualifications

1. Graduation from accredited pharmacy college, passing State board examinations and 1 year of practical experience or internship under the supervision of a registered pharmacist.
2. Bachelor's degree in pharmacy is the minimum educational qualification for most positions. A master's or doctor's degree is usually required for research work or college teaching.
3. Worker traits
    a. Proficiency in math and science
    b. Orderliness and liking for detail
    c. Ability to deal with people
4. Working conditions
    a. 48 hours is the basic work week for many salaried retail pharmacists.
    b. Self-employed pharmacists work even longer hours.

Promotional Opportunities

A pharmacist often begins as an employee in a community pharmacy. With experience and funds, he may become an owner of a pharmacy. In a chain drugstore, he may advance to managerial and executive positions. In hospitals advancement may be to administrative positions.

Places of Employment

Retail pharmacy
Hospitals
Pharmaceutical manufacturers or wholesaler
Federal Government hospitals and clinics
State and local government agencies

Training Programs

5 years of study beyond high school are necessary for graduation from a college of pharmacy with a bachelor's degree.

Current Salary

$6 - $7/hour, starting
$10,000 - $14,000/year, with experience

Employment Outlook

Good through 70's nationally and locally

Related High School Subjects

In addition to requirements, mathematics, and basic sciences, such as chemistry and biology

Professional Affiliation

American Pharmaceutical Association
2215 Constitution Ave. NW
Wash., D.C. 20037

National Association of Retail Druggists

Hawaii Pharmaceutical Association
Box 1198
Honolulu, Hawaii

For more information on pharmacy as a career and scholarships for study, contact the Hawaii Pharmaceutical Association.

PHYSICAL THERAPIST
(D.O.T. 079.378)

Job Summary

A physical therapist helps persons with muscle, nerve, joint and bone diseases or injuries to overcome their disabilities. He helps the patient reach his maximum performance and assume a place in society while learning to live within the limits of his capabilities. Most of his patients are accident victims, crippled children, and disabled older persons.

The therapist plans a therapy program for each patient, involving such means as exercise, massage, heat, water, light and electricity as prescribed by the physician. He applies diagnostic and prognostic muscle, nerve, joint and functional ability tests. He directs and helps patients in active and passive exercises, muscle re-education, walking training. He uses equipment such as ultraviolet and infrared lamps, low-voltage generators, and ultrasonic machines. He teaches patients how to perform exercises and to use and care for braces, crutches and artificial limbs. He shows family members how to continue the patient's treatments at home.

Qualifications

1. B.S. degree in physical therapy from an accredited school
2. 4 months of supervised clinical internship to prepare for professional registration
3. Passing a State board examination
4. License to practice
5. Up to 6 months' on-the-job training to become familiar with hospital equipment and regulations, doctors' techniques, procedures.
6. Worker traits
    a. Patience, tact, resourcefulness, and emotional stability
    b. Verbal ability for understanding of medical terminology, report writing, and communication with patients and staff
    c. Spatial and form perception to visualize anatomical structure of disabled part of body
    d. Motor coordination and manual and finger dexterity

e. Preference for working with the handicapped and motivating them to recovery
f. Ability to perform in situations requiring direction, control or planning of activities.
g. Ability to form conclusions reflecting patients' progress on the basis of 1) judgmental criteria and 2) verifiable criteria, such as patient reaction to therapy

7. Physical demands and working conditions

a. Medium in physical demand: lifting and carrying equipment and supplies up to 50 lbs. without help
b. Stooping, pushing, pulling when moving patient or equipment
c. Handling, manipulating equipment and patient when giving massages

Promotional Opportunities

A graduate degree combined with clinical experience enables advancement to positions of responsibility in teaching, research and administration, as well as in treatment area.

Places of Employment

Hospital
Nursing home
Rehabilitation center
School for crippled children
Public health agency
Physician's office
Clinic
School of physical therapy
Research organization
Consultant to government or voluntary agency
Armed Forces

Training Programs

Most of the approved schools offer bachelor's degree programs. Some schools provide 1 to 2 year programs for students who have completed some college courses. Others accept those already having a bachelor's degree and give a 12 to 16 month course leading to a certificate in physical therapy.

Current Salary

$6,500 - $7,500/year, starting, nationally
$8,500 - $12,00+/year, experienced nationally
$12,000/year, administrative, nationally
$7,300 - $16,000/year, total range locally with State civil service

Employment Outlook

Expected to be excellent through 70's. Part-time positions will continue to be available.

Related High School Subjects

In addition to requirements, biology, physiology, psychology, speech, mathematics, typing.

Entry Level Job

Physical Therapy aide: requires high school graduation and up to 6 months' on-the-job training

For more information, write to:

American Physical Therapy Association
1740 Broadway
N.Y., N.Y. 10019

PHYSICIAN
(D.O.T. 070.101 and .108)

Job Summary

A physician diagnoses diseases and treats people who are ill or in poor health. He is also concerned with preventive medicine and rehabilitation. Some physicians combine a medical practice with research or teaching in medical school. Some teach full-time or hold administrative positions in hospitals or write medical books or articles.

Qualifications

1. Graduation from approved medical school; successful passing of licensing examination and a 1-year hospital internship. Many new physicians take an additional 1-2 years of training as hospital interns or residents. To become a specialist, one must spend 2-4 years in advanced hospital training and 2 more years of practice in the specialty, then pass specialty board examinations.
2. Worker traits
   a. Strong desire to be a physician
   b. Above average intelligence
   c. Interest in science
   d. Decision-making skills in emergencies
   e. Emotional stability
3. Working conditions
   a. Long working days
   b. Irregular hours

Promotional Opportunities

About 1/3 of the physicians in the nation are general practitioners; the other 2/3 are specialists in the 33 fields recognized by the medical association, such as internal medicine, surgery, obstetrics & gynecology, psychiatry, pediatrics, radiology, anesthesiology, opthalmology, pathology.

Current Salary

Intern: $800/mo.
1st year Resident: $875/mo.
2nd year Resident: $925/mo.
3rd year Resident: $975/mo.
4th year Resident: $1,025/mo.
Government: $23,000 -$31,000/yr, starting

Places of Employment

Private practice
Hospitals
Private industry
State and local health departments
Medical schools
Research foundations
Professional organizations
Specialists tend to work in large cities, while general practitioners are more geographically distributed.

Training Programs

The School of Medicine at the University of Hawaii is now a degree-granting institution. Applicants must have completed at least 3 years of college work, usually in the biological sciences. For admission write to:

Admissions Office
University of Hawaii School of Medicine
1960 East-West Road

The Council of Medical Education and Hospitals of the American Medical Association will supply further information on accredited colleges for pre-medical training and approved medical schools on the mainland. See address below.

Professional Affiliation

American Medical Association
535 No. Dearborn St.
Chicago, Ill. 60610

Hawaii Medical Association
510 S. Beretania Rm. 210
Honolulu 96813

Current Salary continued

Earning in private practice depends on:

1. location
2. patients' income level
3. skill, personality & professional reputation
4. length of experience

Physicians in private practice usually earn more than those in salaried positions; and specialists generally earn more than general practitioners and work fewer hours per week.

Employment Outlook

Expected to be excellent through the 70's nationally and locally.

Related High School Subjects

In addition to requirements, college preparatory program stressing science and mathematics

HEALTH

PSYCHIATRIC AIDE
(D.O.T. 355.878)

(Paramedical Assistant)

Job Summary

The main job of psychiatric aides is to interact with patients and offer them the understanding, kindness and encouragement that will aid in patient recovery. Aides contribute information and understanding to the psychiatrist and members of the professional staff to help in dressing, feeding, bathing patients, looking after linens and keeping premises clean. Psychiatric aides work under the direct supervision of the nurse and other mental health professionals in the care of the hospitalized mentally ill. They are important members of the psychiatric team.

Qualifications

1. A high school diploma is not usually required for employment. It is, however, a great help.
2. In-service, on-the-job training varies with the hospital.
3. Some states have begun experimental programs where junior colleges work with state hospitals in establishing psychiatric aide training schools.
4. Worker traits
    a. Person who likes people and finds satisfaction in helping
    b. Patience and understanding
    c. Sense of responsibility and ability to remain calm in emergency
    d. Good physical condition

Promotional Opportunities

Paramedical Assistant II and III with Hawaii State Government

Training Programs

Hospital-conducted on-the-job training

Current Salary

$394/month, starting

Employment Outlook

Good nationally and locally

Places of Employment

Most psychiatric aides work in mental hospitals or the psychiatric wards of general hospitals; some are employed in mental health clinics.

Related High School Subjects

In addition to requirements, psychology

Professional Affiliation

None

For further information, write to:

National league for Nursing
10 Columbus Circle
N.Y., N.Y. 11019

Hawaii State Dept. of Personnel
   Services
825 Mililani St.
Honolulu, Hawaii 96813
Telephone: 548-2211

PSYCHIATRIST
(D.O.T. 070.108)

Job Summary

Psychiatrists are physicians (M.D.'s) who deal specifically with the prevention, diagnosis and treatment of mental disorders. Mental disorders include mental illness, mental retardation, maladjustment, psychosomatic disorders, etc. Psychiatrists, like other medical doctors, have completed medical school and an internship. They have also taken a three-year residency. Psychiatrists use their special skills in identifying the patient's individual problems, administering or prescribing appropriate therapies and directing or giving the kind of care and treatment needed. These treatments may include psychotherapy, in which the psychiatrist applies his special training and experience to listening and talking with the patient to help him attain understanding of himself and a lessening of his mental and emotional difficulties; electroconvulsive and insulin coma therapy; and a wide variety of drugs.

Qualifications

All psychiatrists must first graduate from college and medical school and then complete an internship. To become a fully qualified psychiatrist a doctor then completes the three-year residency training period. In college the student must concentrate on ranking high scholastically to be accepted into medical school. He should take as many social science courses as possible in addition to a pre-medical curriculum including physics, biology, organic and inorganic chemistry. He should take the Medical College Admission Test the year before medical school. Four years are spent in medical school; one year in a hospital internship; three years in residency training; and at least two years of additional experience before qualifying to take an examination for certification by the American Board of Psychiatry and Neurology.

Promotional Opportunities

Some of the constantly enlarging fields of opportunity open include: general, state, federal, or private hospital psychiatry, legal psychiatry, group and family psychiatry, geriatric psychiatry, industrial psychiatry, and public health.

Places of Employment

Mental Hospitals
Psychiatric sections of General hospitals
Community mental health centers
Out-patient clinics
Private practice
Armed service

Employment Outlook

In Hawaii, there is some demand on the outer islands, Oahu employment prospects are scarce.

Expected to be excellent through 70's nationally.

Related High School Subjects

In addition to requirements, a broad college-preparatory course. Emphasis should be on good grades.

Professional Affiliation

American Psychiatric Association
1700 18th St., N.W.
Washington, D.C. 20009

Current Salary

As an intern, the future psychiatrist may earn $800 a month. As a resident, his earnings start at $10,500 a year. As a salaried staff member of an institution under the state government, his salary starts at $22,990. A typical income for a qualified, well-established psychiatrist in a metropolitan area may be around $40,000 a year.

Training Programs

The School of Medicine at the University of Hawaii now offers the M.D. degree. Applicants to the School of Medicine must have completed at least three years of college work. For further information, write to:

Admissions Office,
University of Hawaii School of Medicine
1960 East-West Road
Honolulu, Hawaii 96822

The Council of Medical Education and Hospitals of the American Medical Association, 535 North Dearborn St., Chicago, Ill. 60610 will supply further information concerning other accredited colleges for pre-medical training, approved medical schools and hospitals for intern training.

HEALTH

PSYCHOLOGIST
(D.O.T. 045.088 and .108)

Job Summary

Psychologists study the behavior of individuals and groups and often help people achieve satisfactory personal adjustment. They obtain information about the capacities, traits and behavior of people by interviewing, developing and administering tests and rating scales; studying personal histories; and conducting controlled experiments. Their work includes varied activities as teaching, counseling, planning and conducting training programs, performing basic and applied research, and administering psychology programs in hospitals, clinics, research laboratories.

Psychologists usually specialize in one of the various branches of the profession. Clinical psychologists work in mental hospitals or clinics and are concerned with the problems of mentally or emotionally disturbed people. Experimental psychologists study basic learning and motivation. Developmental psychologists work with special age groups. Counseling psychologists help people achieve satisfactory personal, social, educational, or occupational adjustment. There are also educational psychologists, industrial psychologists, engineering psychologists, physiological psychologists, comparative psychologists, and social psychologists.

Qualifications

1. Master's degree with a major in psychology is the minimum educational requirement. The Ph.D. degree is needed for many entrance positions and enables one to be eligible for the more responsible research, clinical, and counseling positions, as well as for high level positions in colleges and universities, and in Federal and State programs.
2. Psychologists desiring to enter private practice must meet the certification and licensing requirements of the state of Hawaii.

3. Recognition of advanced standing in the field is conferred in accordance with standards set by the American Board of Examiners in Professional Psychology. Psychologists may qualify by examination for Diplomate status after five years (four years post-doctoral) of acceptable experience.

Promotional Opportunities

Psychologists with a master's degree may qualify for positions where they administer and interpret psychological tests, collect and analyze statistical data, and perform routine administrative duties. They may teach, counsel, or, with teaching experience, act as school counselors or psychologists. The Ph.D. degree is needed for the more responsible research, clinical and counseling, as well as administrative and teaching, positions.

Current Salary

Private practice in Hawaii:
$15,000 - $50,000; $30,000 average

$820/mo., starting with Master's degree for State Government.

$949/mo., starting with Ph.D. degree for State Government.

Employment Outlook

Locally, positions are scarce at present. Qualified applicants are in over supply. This situation is not likely to change unless the economic picture of the state improves.
Nationally, depending on geographical region, the picture is a bit better.

Places of Employment

Colleges and universities
Government agencies
Elementary and secondary schools
Private industry
Clinics
Private practice
Armed Services

Training Programs

The University of Hawaii offers the Master's and Ph.D. degrees in both Psychology and in Educational Psychology. A program leading to the Bachelor's degree with a major in Psychology is also available. At least 1 year of full-time graduate study is needed to earn the Master's degree, and 4-6 years for the Ph.D., which generally includes 1 year of internship experience for clinical and counseling psychology.

For further information, write to:

Department of Educational
Psychology
Univeristy of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8511

or

Department of Psychology
University of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8414

Professional Affiliation

American Psychological Association
1200 17th St. NW
Washington, D.C. 20036

Hawaii Psychological Association
Telephone: 531-3161

Related High School Subjects

In addition to requirements, a college preparatory curriculum with stress on mathematics and sciences

RADIOLOGIC TECHNOLOGIST
(D.O.T. 078.368)

Job Summary

A radiologic technologist, also known as a medical X-ray technician, operates X-ray equipment under the direction of physicians who are usually radiologists. A radiologic technologist performs diagnostic work, using X-ray equipment to take pictures of internal organs, prepares chemical mixtures which the patient swallows to make specific organs appear clearly in the X-ray examination; uses proper radiation protection devices and techniques which safeguard against radiation hazards; makes the required number of radiographs to be developed for interpretation by the physician; keeps treatment records. The technologist may also assist the physician in treating disease by administering prescribed doses of X-ray. Some technicians work in the relatively new field of nuclear medicine.

Qualifications

1. High school graduation
2. Satisfactory completion of formal radiologic technologist's training in an American Medical Association-approved school.
3. Ability to meet requirements for registry by American Registry of Radiologic Technologists
4. Worker traits
    a. Good health and stamina
    b. Ability to deal with people who may be under physical and emotional stress
    c. Verbal ability to understand instructions and to exchange information
    d. Spatial perception to visualize inner structure of the human body
    e. Form perception to perceive details in X-rays
    f. Clerical perception to perceive pertinent detail in technique charts
    g. Manual dexterity
    h. Preference for scientific and technical activities
5. Physical demands and working conditions
    a. Medium strength to lift patients or assist in lifting them on and off the X-ray table
    b. Near-visual acuity
    c. Standing most of the time

d. Electrical and radiant energy hazards are present. One must wear protective gloves and apron during certain procedures; must wear film badge and have periodic blood counts to detect radiation effects.

Promotional Opportunities

Opportunities for advancement include chief technologist, administrative assistant, and instructor. Outside the field of medicine, on the mainland, there are positions with X-ray equipment and film manufacturing companies and in sales and technical services.

Places of Employment

Hospital
Medical laboratory
Physician's office/clinic
Federal and State health agencies
Educational system
Commercial or technical representative

Current Salary

$7,000/year, nationally as well as locally

Employment Outlook

Expected to be very good through 70's. Part-time opportunities will be favorable.

Related High School Subjects

In addition to requirements,courses in general math, algebra, basic science. Recommended are chemistry, physics, anatomy, geometry, typing, biology, and physiology.

Training Programs

Training programs are conducted by hospitals or medical schools affiliated with hospitals. A program usually takes 24 months for completion. Some schools offer 3 and 4 year programs. An Associate of Arts degree or Bachelor's degree is possible. In addition to training programs in American Medical Association-approved schools, training may also be obtained in the military service.

Queen's Medical Center School of Radiologic Technology is a 2-year training program leading to certification by the American Registry of Radiologic Technologists.

For more information, contact:
Queen's Medical Center School of Radiologic Technology
1301 Punchbowl St.
Honolulu, Hawaii 96813

A radiological technican program is also offered by Kapiolani Community College, leading to an Associate in Science degree.

For further information, write to:
Kapiolani Community College
Student Services Center
620 Pensacola St.
Honolulu, Hawaii 96814
Telephone: 531-4654

Professional Affiliation

American Registry of Radiological
Technologists
2600 Wayzata Blvd.
Minneapolis, Minn. 55405

Hawaiian Society of Radiological
Technologists
(Contact Health Services, Kapiolani Community College for current address)

American Society of Radiological
Technologists
645 No. Michigan Ave.
Chicago, Ill. 60611

REHABILITATION COUNSELOR
(D.O.T. 045.108)

Job Summary

Rehabilitation counselors are concerned with the vocational and personal adjustment of physically, mentally, and socially handicapped persons. The counselor interviews handicapped persons to get necessary information about their abilities, interests and limitations. He works out a plan of rehabilitation with the person and those providing medical treatment and other special services. When the person is ready for employment, the counselor helps him find a suitable job.

Qualifications

1. Basic educational requirement for entry is graduation from college with course credits in counseling, psychology and related fields. Most employers prefer to hire people having a master's degree in vocational or rehabilitation counseling or in related areas such as psychology, education, or social work. Increasing emphasis is being placed on the master's degree as the minimum educational requirement.
2. Worker traits
   Understanding of human behavior, patience, capacity for working with people in solving their problems
3. In about three-fourths of State rehabilitation agencies throughout the nation, applicants are required to comply with State civil service and merit system rules. These rules often require applicants to pass a written competitive examination.

Promotional Opportunities

With considerable experience, rehabilitation counselors may be advanced to supervisory positions or to top administrative jobs.

Current Salary

$6,000 - $8,500/year, average starting, nationally

$529 mo., starting with Bachelor's degree for State of Hawaii Civil Service

$612/mo., starting with Master's degree for State of Hawaii Civil Service

Places of Employment

State and local rehabilitation agencies
Hospitals
Labor unions
Insurance companies
Special schools
Rehabilitation centers

Employment Outlook

Expected to remain excellent throughout 70's nationally. Locally, job prospects are dependent on the State's economic condition. Jobs are scarce at present.

Related High School Subjects

In addition to requirements, a college preparatory program

Professional Affiliation

American Rehabilitation Counseling Association
1607 New Hampshire Avenue NW
Washington,D.C. 20009

National Rehabilitation Counseling Association
1522 K St., NW
Washington, D.C. 20005

American Psychological Association
1200 17th St. NW
Washington, D.C. 20036

Training Programs

No specific program in rehabilitation counseling is presently available at the University of Hawaii. Master's degree programs are available in educational psychology (counseling and guidance) and in psychology.

For further information, write to:

Department of Educational Psychology or Department of Psychology
University of Hawaii
Honolulu, Hawaii 96822

For information on schools offering a program in rehabilitation counseling, write to:

U.S. Department of Health, Education & Welfare
Social and Rehabilitation Service
Rehabilitation Service Administration
Divison of Training
Washington, D.C. 20201

SURGICAL AIDE OR OPERATING ROOM TECHNICIAN
(D.O.T. 079.378)

Job Summary

Assistants or aides are identified according to the hospital service in which they work. Surgical aides or operating room technicians work as members of the surgical team under the direction and continuous supervision of the physician and/or nurse. They assist in the care of patients in the operating room, delivery room, or emergency room, and perform tasks associated with maintaining aseptic conditions. The surgical aide also helps set up the operating room with the surgical instruments and equipment needed for each operation; assists in the care, preparation and maintenance of sterile and non-sterile supplies and equipment, and assists in their handling.

Qualifications

1. High school graduation
2. At least 3-6 months of inservice training, primarily in hospitals or a program for surgical aides leading to a certificate.
3. Some employers prefer graduation from a 1-year practical nurses' program.
4. Worker traits
   a. Preference for working with scientific objects to help people
   b. Ability to perform variety of duties in the operating room under supervision
   c. Motor coordination for rapid and accurate movements of body and hands
   d. Verbal ability to use and understand medical terminology
5. Physical demands and working conditions
   a. Medium, involving standing and walking, lifting patients onto operating table
   b. Good hearing and near-visual acuity

Promotional Opportunities

No formal line of promotion. Transfer to another service is possible, such as obstetrical aide or pediatric aide.

Current Salary

$469 - $543/mo.

Training Programs

1. Hospital in-service training
   Queen's Medical Center offers a 6-month nationally certified training program for operating room technicians which includes both classroom theory and practice plus clinical on-the-job training. At present the program is tuition-free. Students receive $25 month stipend, one free meal a day, and uniforms and laundry while in the clinical area.

   An additional three months' course is given for trained surgical assistants including indepth lectures and practice.
   If the need exists, students are expected to work at Queen's at least one year following satisfactory course completion.

For more information, contact:
Queen's Medical Center
Personnel & Industrial Relations Office
Telephone: 538-9011, ext. 355

2. A few vocational schools and community colleges on the mainland in conjunction with cooperating hospitals offer programs of 1 year or longer leading to a certificate.

Employment Outlook

Good locally
Excellent nationally

Places of Employment

Hospitals

VETERINARIAN
(D.O.T. 073.081 through .281)

Job Summary

A veterinarian or doctor of veterinary medicine diagnoses, treats and controls diseases and injuries among many species of animals. He performs surgery on sick and injured animals, and prescribes and administers drugs, medicines, serums and vaccines. Such work prevents the outbreak and spread of disease among animals, which benefits humans, since many animal diseases can be transmitted to humans. Some veterinarians specialize in the health care of a particular animal; inspect meat, poultry and other foods as a part of the government public health program; teach; do research.

Qualifications

1. Graduation from veterinary school approved by the American Veterinary Medical Association
2. Successful passing of State Board examination
3. License to practice
4. Working conditons
    a. Exposure to danger of physical injury, disease and infection
    b. Long and irregular working hours possible

Promotional Opportunities

Some veterinarians begin as assistants to or partners of established practitioners. Many start their own practice. Federal positions are available in meat and poultry inspection, disease control, epidemiology and research.

Related High School Subjects

In addition to requirements, courses in physical and biological sciences.

Current Salary

$9,000/year, starting

Employment Outlook

Expected to be good through 70's, especially in small animal practice. Opportunities are very good for women. Opportunities are also very good for veterinary technologists.

Training Programs

Minimum requirements for D.V.M. degree are 2 years of preveterinary college work (available at UH) followed by 4 years of professional study in a college of veterinary medicine. Most students complete 3-4 years of the preveterinary curriculum instead of 2.

For more information write to:
Dr. Alan Y. Miyahara or
Dr. Robert M. Nakamura
Dept. of Animal Sciences
1825 Edmondson Rd.
University of Hawaii
Telephone: 944-8217

A 2 year veterinary technology program is also available on the mainland. For further information, contact Dr. Miyahara

Places of Employment

Private practice
Federal Government, U.S. Dept. of Agriculture and U.S. Public Health Service
Armed Forces
State and local governmental agencies
Colleges and universities
Research and development laboratories
Large livestock farms
Animal food companies

Professional Affiliation

Honolulu Veterinary Society

Hawaii Veterinary Medical Association

American Veterinary Medical Association
600 South Michigan Ave.
Chicago, Ill. 60605

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HOSPITALITY AND RECREATION

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HOSPITALITY AND RECREATION

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NATIONAL TRENDS

I. Hospitality and Recreation Industry

There is a kind of glamour and excitement associated with the hospitality field much like what is found in show business, only the job is twenty-four hours a day and seven days a week--not just when the curtain goes up. Part of the glamour stems from the fact that no matter what part of the hospitality and recreation business the participant is involved in--hotels, restaurants, recreation centers, tour companies--all deal with one basic ingredient: PEOPLE. And it is these people, their changing modes of living and their expanding numbers that make this particular field one of the most exciting and rewarding to join. The field is just now coming into its own.

At present there are approximately half a million persons working in the hospitality and recreation industry in the United States. They can be found in every community of any size. The innkeeping industry is one of the largest income-earning industries in the country. Its contribution to the national product ranges from two to three billion dollars a year. Since more people travel today and because of the increasing amount of leisure time most of us enjoy, more and more hotels are being built. This means increased job opportunities.

Basic Reasons for Employment Increase

1. Increase in new hotels, motor hotels and motels will require increased personnel to fill vacancies.
2. The demand for lodging will increase as the population increases and travel for business and pleasure increases.
3. Increased leisure time will give the population more time to spend enjoying their surroundings.

4. Workers will be retiring, dying, and moving to other industries, creating some 30,000 vacancies.

Factors that Might Limit Increase

1. Older hotels, unable to modernize, may experience low occupancy rates, and may be forced to reduce costs by eliminating workers.
2. Jet air travel makes available plane trips which can be over and done with in a day's time, not necessitating the need for hotels.
3. Increased use of automatic dishwashers, vegetable cutters and peelers may reduce the need for kitchen helpers and similar occupations.
4. Increased use of clerical office machines and mechanized reservations may limit clerical and front office positions.

Specific Trends Seen Nationally

1. Seasonal employment in the hotel and restaurant industry will continue. This means that thousands of temporary jobs will always be available during peak times of the year in resort hotels, motels and tour companies. This is a good experience for the student interested in finding out more about the hospitality industry.
2. The most rapid employment increases will be in the motels and motor hotels which cater to motorists. This trend has been evident for some time, and will continue as the Federal highway building program stimulates automobile travel.
3. Many job openings will continue to be for workers with little or no specialized training, such as maids, porters, kitchen helpers and dining room employees.
4. Opportunities will be most favorable for those young people who acquire training and experience prior to entering the industry. Summer

and part-time as well as classroom activities are a good way of getting this experience.

II. Food Service Industry

Although the food service industry is directly related to hotels and recreation, it is a specific area in itself with unique factors contributing to trends for the future. Some of these factors are listed below to give the reader a "feel" for what the extent of the industry is:

1. The food service indsutry is the third largest in the United States, with annual sales of about $30 billion. High sales mean more job opportunities.
2. The average American eats one of every four meals away from home; by 1975 he will probably eat one of every three meals away from home. Good food service requires trained people.
3. The food service industry provides 750 million meals a week through more than 367,000 individual establishments. New food service operations are being opened every week. New opportunities are available at all skill levels.
4. The industry employs about three and one quarter million people and will need four million people by 1975 or about 250,000 additional employees each year to provide replacements and fill new openings. About 75,000 of these will be new jobs which do not yet exist.
5. The food service industry is a good place to work and can provide good income, opportunity for advancement and a sense of personal gratification not always available in other industries.

LOCAL TRENDS

An excellent way to get a feel of what the tourism arena has in store for Hawaii in the next decade is to take a look at some of the newspaper headlines that have appeared in the last few months.

"Tourism Bright Spot in a Gloomy Picture: This article, appearing in March of 1972, indicates that the tourism industry has just about the lowest unemployment rate in the State. While the total unemployment rose for February to 6.5 percent, the tourism industry remained stable in employment outlook. Reasons for this, cited by Arthur Rutledge of the Teamsters Union are: (1) business brought in from other parts of the country

(2) influx of Japanese tourists to replace loss of Rest and Recuperation

"Good Days Seen in Tourism": Appearing in February of 1972, this article reports the optimism expressed by Wesley H. Hillendahl, head of Bank of Hawaii's Research Department. He believes the major news of importance to the industry in Hawaii lies in international tourism trends, and the Pacific area has seen a 100% increase in tourism in the last five years. All things considered, he is "generally optimistic for ten years ahead."

"Hawaii Tourism Begins 1972 with a 'Boom'": A synopsis of some individual reports brought out by the Hawaii Visitors Bureau in March 1972, this report indicates:

1. All Sheraton Hotels topped 80% occupancy rate for February
2. Cinerama Hotels were just under 100% occupancy
3. Disenchantment with European travel has lured tourists to Hawaii
4. Hawaii is continuing to be one of the least expensive hotel areas in the world

"Hilton Executive Expects Boost in Foreign Visitors": This article appeared in the January 1972 issue of the Star-Bulletin and reports Don L. Madsen's (Vice President of Hilton Hotels in Hawaii) views that 1972 will be the year for foreign visitors to more than offset the decline of R and R trade. This is due particularly to the devaluation of the dollar in many foreign countries.

"State Urges Tourism Curbs": This is a brief synopsis of the State's long-awaited report on tourism by the Department of Planning and Economic Development and the University of Hawaii, which headlined the front page of the February 10, 1972 issue of the Honolulu Advertiser. It recommends:

1. Halting additional zoning for resort development
2. Placing all tourist facilities away from shoreline area
3. A State program to buy beach property
4. The establishment of design and review boards in all counties to review all public and private construction

Just this brief selection of where tourism is at right now indicates that it will remain a very big part of the Hawaiian picture for decades to come--and this means jobs to fill up gaps in that picture.

The outlook for tourism and hospitality in general is not only excellent in terms of employment, but it also indicates a step toward planning its growth so that it meets the needs of both our visitors and our kamaainas. This can be seen in the articles above where a distinction can be made between the outlook for the hotel industry, and, on the other hand, the State Tourism Report which indicates we should put more controls on the building and orient tourism toward parks and recreation also.

Toward A Unique Tourism

There is a significant trend which has yet to catch hold but which promises an entirely unique future for Hawaii in the arena of hospitality and recreation. This trend is that the State should try and head for enhancement of those things which make Hawaii unique--history, culture, scenery--rather than promote the commercialism of Waikiki. Lt. Governor George Ariyoshi has spoken often of his, and also of making the East-West Center of greater use to the people of Hawaii and the Pacific as a place of interaction between cultures on a full scale basis.

Many people also see in Hawaii the potential to become a multi-ethnic learning center, and call for the emphasis in expansion to be away from hotels to camping sites and the trend away from "sun and surf" promotion to the historical and cultural aspects of Hawaii. All of this is only at the idea stage presently but indicates that important people are coming out with some innovative ideas which could change the orientation of the entire hospitality industry in Hawaii and make it hospitable for the kamaainas as well as the visitors. As Lowell Dillingham has reiterated: tourism may be an economic mainstay in Hawaii but if the environment is destroyed, the economy is also destroyed.

The State of Hawaii is in for some changes in its hospitality industry in the next decade and the individual who becomes involved NOW with the industry, no matter at what level, can be assured of a vital, exciting surrounding, in which he can become a part--if he wants to. The State of Hawaii is beginning to adopt a long-run view concerning the extent of inter-island and intra-island dispersion of the industry, external influences (like the dollar devaluation) and protection and conservation of the environment. It will need creative, hard working people to help face these problems.

LOCAL FIGURES TO BE CONSIDERED

1. By 1975 there will be a tremendous turnover in Hawaii's hospitality employment because people who joined the job market in the 40's and 50's will be retiring or dying.

2. There will be an anticipated 6% growth per year in hospitality employment for the next decade.

3. The number of tourists to Hawaii will reach 3.2 million by 1980 and their average daily expenditures will increase to $59 per day.

4. In the 70's the hotel industry will rank fourth as a recipient of all employment growth--absorbing 11% of the growth, including recreational establishments.

5. Neighbor islands will see a tremendous expansion in construction and employment. Total projected increase in neighbor island employment is 7,161 jobs in direct hotel employment and 11,302 in related employment such as restaurants, nightclubs, bars and other entertainment, retail stores, services and transportation, visitor attractions, taxi, auto rentals and tour-bus and others.

6. Visitor industry employees for the Islands will have increased from 34,333 in 1971 to 56,444 in 1980 or earlier.

TRAINING PROGRAMS

In the area of Hospitality and Recreation there is a wide variety of training programs available at all levels of the educational system. Particularly here in Hawaii, where hospitality plays such an integral part in the economy of the State, these training programs stand out as a necessity to train qualified people for an area which has the potential to create a whole new way of life for visitors and local people of the State.

This section will cover five basic program levels at which training in this area is available: high school, community college, private schools, university, and miscellaneous.

High School

The two basic core areas found in high school in the hospitality and recreation area revolve around Food Service Occupations and Office Work or Mid-Management occupations.

I. Food Service Occupations
    A. Basic courses needed to graduate
        1. English
        2. Social Studies
        3. Physical Education
        4. Health
    B. Basic courses in area
        1. Career Development
        2. Management & Family Economics
        3. Psychology
        4. Personality and Dress
        5. Science
        6. Speech Fundamentals

C. Major

  1. Nutrition
  2. Food Management--includes cooperative work experience

D. Electives

  1. Art
  2. Family living
  3. Economics
  4. General Business
  5. Hawaiiana
  6. Chemistry

II. Office Work--Mid-Management

A. Basic courses needed to graduate

  1. English
  2. Social Studies
  3. Physical Education
  4. Health

B. Basic courses in area

  1. General Business
  2. Beginning Typing
  3. Mathematics
  4. Speech Fundamentals
  5. English
  6. Career Development
  7. Science

C. Major

  1. Introduction to Data Processing
  2. Advanced Typing
  3. Beginning and Advanced Shorthand
  4. Beginning and Advanced Accounting
  5. Cooperative Office Education

D. Electives

  1. Office
  2. Practice Business Machines
  3. Business Law
  4. Personality and Dress
  5. Management and Family Economics

Community College

The basic source of training at this level is the Community College System run by the State of Hawaii. Within this system there will be a differentiation made between Food Services, Mid-Management and Recreational Training.

I. Food Services: The Community College System in Hawaii offer a wide variety of courses related to food services and designed to turn out qualified students in a wide variety of fields from cooks to food and beverage managers. The training content of the curriculum generally revolves around some combination of the following types of courses:

Food Service
Dining Room Service
Catering and Cafeteria Service
Basic Math
Nutrition and Menu Planning
Principles and Methods of Salesmanship
Merchandising
Other subjects as required

Most of the programs involve on-the-job training as well as classroom experience and also offer placement services for those seeking part-time employment while attending school. Listed below are the community colleges now offering programs in food service:

Kapiolani Community College
620 Pensacola Street
Honolulu, Hawaii 96814

Hawaii Community College
1175 Manono St.
Hilo, Hawaii 96720

II. Hotel Mid-Management: Many of the community colleges also offer extensive programs revolving around office-related and management-related aspects of the hotel industry. The training content of the curriculum generally follows a cluster of courses in areas such as:

Administration
Registration
Reservations
Promotional and Publicity Marketing
Development and Growth
Hospitality and Education

Accounting
Baggage
Public Relations
Cafeteria Management
Tour and Guide Services
Housekeeping
Food and Beverage Services-Preparation
Hotel and Restaurant Orientation
Front Desk Procedures

Most of these programs also involve extensive on-the-job training as well as related classroom activities. Listed below are the community colleges now offering programs in hotel mid-management:

Kapiolani Community College
620 Pensacola Street
Honolulu, Hawaii 96814
Telephone: 531-4654

Maui Community College
310 Kaahumanu Ave.
Kahului, Hawaii 96732

Hawaii Community College
1175 Manono Street
Hilo, Hawaii 96720

It should also be noted that Leeward Community College, and Kauai Community College hope to include programs in both food services and hotel management in the near future. Maui Community College also hopes to be adding a Dining Room Management curriculum to its existing program.

III. Recreational Training: A program in recreational training, the only one of its kind offered in the State at the community college level, is found at Leeward Community College. This program is designed to prepare men and women to achieve a broad background in recreation skills and to provide knowledge necessary for many leadership positions. Practical application of theory is provided by combining broad work experiences, field study, and selected courses in psychology and sociology, including an understanding of people and how to relate to them. For more information on this program and how to enter it, contact:

Registrar
Leeward Community College
96-050 Farrington Highway
Pearl City, Hawaii 96782
Telephone: 455-0011

Private Schools

Cannon's College of Commerce is the only privately run school in the State which offers a really extensive program in Hotel and Restaurant Management and Food Service at the school itself. Just begun in the Fall of 1971, it is based on the Taylor Hotel-Motel Management Program which is affiliated with ITT and Sheraton Corporation of America. On-the-job training at Sheraton Hotel facilities is emphasized.

I. Food and Beverage Section: This particular section of the program emphasizes courses in food merchandising, menu planning, dining room service, food and beverage purchasing, cost controls and elements of food production.

II. Hotel Administration Section: This section of Cannon's program emphasizes courses in introduction to hospitality industry, front office operation, hotel-motel marketing, personnel management, accounting practices, legal aspects, and housekeeping, materials and maintenance.

The program generally runs either nine months, Monday through Friday 8:00 to 3:00, or fifteen months Monday through Thursday, 6:00 PM to 10:00 PM. Tuition is usually $1,500. For further information, contact:

Mr. Maurice Nitta, Registrar
Cannon's College of Commerce
33 South King Street
Honolulu, Hawaii 96813
Telephone: 533-2944

La Salle Extension University offers a home study course in Hotel/Motel Executive training, taking from one to two years, and offering the full range of courses prepared by the Educational Institute of the American Hotel and Motel Accounting, Hotel Law and Supervisory Housekeeping. Successful completion of the course earns the La Salle and American Hotel and Motel Association Diploma. Tuition is generally $495.00. For further information contact:

La Salle Extension University
2003 Kalia Road
Honolulu, Hawaii 96815
Telephone: 955-4738

University

Created in 1967, the School of Travel Industry and Management in the College of Business Administration at the University of Hawaii is unique throughout the entire world in its specific emphasis on tourism and hotel and restaurant management as specific curricula an individual can specialize in. This program brings out the unique nature of Hawaii in its relation to education--the two areas complement each other.

In the TIM program an individual can specialize in either of two basic areas: Tourism Administration or Hotel and Restaurant Management, with either one containing some exposure to the other. Tourism Administration will emphasize courses such as the following:

Tourism Principles
Travel Agency Management
Economics of Transportation
Passenger Transportation
Law and Regulation of Travel Industry
Resort Area Development and Internship

Hotel and Restaurant Management will emphasize courses such as:

Hotel Management Principles
Institutional Purchasing
Hotel Design
Hospitality Merchandising and Club Management
Hotel Internal Controls
Internship

The Internship Program in both of the above curricula is an important part of the training involved. It is direct paid work experience each year for four years to orient the student to a succession of increasingly sophisticated exposures that will make the more theoretical approaches of the classroom take on greater relevance. For more information regarding specifics of the TIM program write or call:

School of Travel Industry Management
University of Hawaii
Business Administration 203
Honolulu, Hawaii 96814

The Division of Continuing Education at the University offers a number of middle management and top executive level courses during four accelerated 10 week terms, beginning in June, October, January and March. They are prepared by the Educational Institute of the American Hotel and Motel Association (AH & MA) and while conveying no University credit they do carry the AH & MA diploma on successful completion. Tuition is generally from $30-40, and enrollment is open to high school graduates who are 18 years of age or older. For further information contact:

Division of Continuing Education
2500 Dole Street
University of Hawaii
Honolulu, Hawaii 96822
Telephone: 944-8951

Miscellaneous Programs

There are a few programs in Hawaii which are not affiliated with any particular educational level, but are designed to train the individual in a very specific skill in the hospitality and recreation industry. Two such programs are:

1. Bartender's Training Academy: This school has two basic programs, one in Bartender-Bartendress training and the other in Cocktail Waitress training. Brief information on these programs is listed below:

Bartender-Bartendress: The length of the program is six weeks, and the cost, which can be made in installments, is $175. The enrollment is every Monday, if there is available space. The program consists of memorization of popular drinks, learning how to run a cash register and reading histories of wines.

Cocktail Waitress: The length of the program is two weeks for a cost of $50. The enrollment varies with the number enrolled. Basic skills of waitressing and serving and taking orders for drinks are the content of the program. There also may be some cash register skills involved.

For further information on these programs, write or call:

Mr. William Auwae
The Bartenders Training Academy
Suite 225, 830 Ala Moana Blvd.
Honolulu, Hawaii 96801
Telephone: 537-1869

2. Hawaii Bartenders Academy--Cannon's College of Commerce: The Cannon's College of Commerce has its own Bartender Training Program where it trains both Bartender-Bartendress and Cocktail Waitress. The length of the Bartender-Bartendress program is sixty hours for a cost of $195. The Cocktail Waitress program lasts only fifteen hours (morning, afternoon, and evening) for a cost of $50.

For further information on this program, write or call:

Mr. Maurice Nitta
Hawaii Bartender's Academy
33 South King Street
Honolulu, Hawaii 96813
Telephone: 533-2944

3. Tour Companies: This area of training is almost totally unsophisticated as far as formalized training goes. All of the training takes place on-the-job by experienced individuals. When the trainee is deemed ready, he proceeds to take over the position on his own. For more specific information, the individual should call the specific tour company he is interested in joining. A brief listing of these is provided at the end of this section.

For More Information

There are several sources in Hawaii which are not themselves involved directly with training but which either sponsor various training programs and/or conduct job placement services. Two of the main sources are listed below followed by a brief listing of the major hotels in Hawaii and their personnel contacts, and some of the major tour companies.

1. The Pacific Training Council: This is a federally funded project sponsored by the Manpower Training Act designed to employ the hard core disadvantaged in the hotel and restaurant field. Established wage brackets and length of unemployment are the basis of selection into the program, as established by the Federal Government. It also functions as a watchdog agency, keeping tabs on employee performance on the job, and the quality of the training he is getting. For further information on the council and how to join its training program contact:

The Pacific Training Council
Recruitment Office
Rm. 307, 1966 Ala Moana Blvd.
Honolulu, Hawaii
Telephone: 949-8978

2. Employment Service--Hotel and Restaurant Workers Union: This employment service is sponsored by the Hotel and Restaurant Workers Union, the union to which over 60% of all hotel and restaurant workers belong. It functions as an employment and referral service to the individual who is either graduated from high school or a community college and is looking for a job in the hotel and restaurant industry. For further information on this service, contact:

   Ms. Marsha White, Coordinator
   The Employment Service, Hotel and Restaurant Workers Union
   1956 Ala Moana Blvd.
   Honolulu, Hawaii
   Telephone: 946-2114

Benefits

The majority of hotel and restaurant workers belong to the Hotel and Restaurant Workers Union of the AFL-CIO--more than 60% of them. Tour drivers belong to its affiliate, the Teamsters Union. As a member of the union, the individual is eligible for the following: health and welfare benefits, life insurance, and a pension plan. For more information on how to join the union and what specific benefits are abailable write or call:

Hotel and Restaurant Workers Union, Local 5
1956 ala Moana Blvd.
Honolulu, Hawaii 96814
Telephone: 946-2114

Many of the individual hotels also have specific benefits of their own, and many include profit sharing benefits for the individual employee. For information on this aspect, the individual should contact the specific hotel.

Many employees of outer island hotels belong to the International Longshoremen's and Warehousemen's Union (ILWU). As a member of the union the employee is eligible for medical benefits, life insurance and a pension plan. For further information contact:

ILWU
451 Atkinson Drive
Honolulu, Hawaii 96814
Telephone: 949-4161

HOTELS IN HAWAII

HAWAIIAN PACIFIC RESORTS HOTELS, INC.
Mr. John Takasue, Director of Operations
1150 S. King St.
Telephone: 531-5235

HILTON HAWAIIAN VILLAGE
Mr. Arthur Koppen, Director of Personnel
2005 Kalia Road
Telephone: 949-4321

HILTON HAWAIIAN VILLAGE
Mr. Robert Mark, Personnel Assistant
2005 Kalia Road
Telephone: 949-4321

HOLIDAY ISLE HOTEL--ISLAND HOLIDAY RESORTS
Mr. Pat Perry
2222 Kalakaua Ave.
Telephone: 923-0777

ILIKAI HOTEL AND MAKAHA INN
Mrs. Nani Higashino, Director of Personnel
1777 Ala Moana Blvd.
Telephone: 949-3811

ILIKAI HOTEL
Miss Joanna Davilla, Assistant Personnel Director
1777 Ala Moana Blvd.
Telephone: 949-3811

MAKAHA INN
Miss Joan Oshiro, Personnel Assistant
Waianae, Hawaii
Telephone: 696-7011

INTER ISLAND RESORTS
Mr. Kimo Pelitier, Director of Industrial Relations
307 Lewers Road
Telephone: 922-1636

CINERAMA HOTELS
Mr. Jack Woolley, Director of Personnel
2299 Kuhio Ave.
Telephone: 922-1262

KAHALA HILTON HOTEL
Mrs. Kathryn Luther, Personnel Director
5000 Kahala Ave.
Telephone: 734-2211

OUTRIGGER HOTEL
Mrs. Margie Borne, Administrative Assistant to the General Manager
2335 Kalakaua Ave.
Telephone: 934-0711

PAGODA HOTEL
Miss Carol Kajiwara, Assistant Personnel Director
1525 Rycroft St.
Telephone: 941-6611

HOTEL CORPORATION OF THE PACIFIC
Miss Sharon Burleigh, General Manager
2490 Kalakaua Ave.
Telephone: 922-3211

SHERATON HAWAII
Mr. Richard Hashimoto, Director of Personnel
2490 Kalakaua Ave.
Telephone: 922-3211

ALA MOANA HOTEL
Mrs. Melissa Fontes, Director of Personnel
401 Atkinson Drive
Telephone: 955-4811

SPENCECLIFF CORPORATION
Mr. Roy King, Vice-President of Personnel
1826 Kalakaua Ave.
Telephone: 949-4121

SPENCECLIFF CORPORATION
Mr. Kenneth Stehauwer, Assistant Director of Personnel
1826 Kalakaua Ave.
Telephone: 949-4121

TOUR COMPANIES IN HAWAII

HAWAIIAN HOLIDAYS
Mr. Harvey Green, Personnel Manager
Suite 1600, 2270 Kalakaua Ave.
Telephone: 922-2355

TRADEWIND TOURS OF HAWAII
Suite 1505, 2222 Kalakaua Ave
Telephone: 923-2071

MACKENZIE TRAVEL ORGANIZATION HAWAII
Mr. Charles Chu, Personnel Director
2828 Paa St.
Telephone: 833-1611

CHARLES TAXI AND TOURS
Mrs. Dale Evans, Tour Personnel Director
Rm. A, 1888 Kalakaua Ave
Telephone: 955-3377

CAREER LADDER

EDUCATION LEVEL	JOBS AVAILABLE (SAMPLING)
High School	Doorman Bellman Roommaid Utilityman Baker's Helper Assistant Cook Dishwasher Bar Porter
Community College Business College Technical School	Desk Clerk Maintenance Trainee PBX operator Waiter/Waitress Host/Hostess Cook Baker Bartender Cost Control Clerk Cashier
University Degree: Travel Industry Management Home Economics Business Administration Liberal Arts	Assistant Manager Assistant Housekeeper Chief Engineer Sous Chef Food/Beverage Controller Sales Representative Personnel Director

NOTE: The above is just a sampling of a career hierarchy in the hotel industry. Remember that an individual cannot expect to automatically enter above an entry level position unless he has had prior experience. Education alone will not do. Most hotels promote form within, leaving entry level positions open for filling. Often, with only an educational background, an individual will have to start "at the bottom." He should not be discouraged if this is the only level job he can get with his education. If he shows ambition and ability he will usually be promoted at a fast rate.

HOTEL SERVICES SECTION

BELLBOY
(D.O.T. 324.138 & .878)

Job Summary

A bellboy carries the baggage of incoming hotel guests while escorting them to their rooms. He checks the lights and the supply of towels and soap, and sees that everything is in order in the room. He may suggest the use of various hotel services, including the dining room and the valet service. He also performs errands for guests and delivers packages.

Qualifications

1. No specific educational requirements exist for bellmen jobs, although a high school diploma may better the individual's chances for promotion to front office clerical jobs.
2. Neatness, tactfulness and courteousness and a knowledge of the geography of the local community
3. Physical stamina to be able to stand all day and to carry heavy luggage

Promotional Opportunities

1. Head Bell Captain
2. Desk Clerk

Places of Employment

Those hotels which cater to the tourism trade and/or resort conditions

Current Salary

$1.77/hr.

Employment Outlook

Relatively slow increase in employment as the trend towards informality in hotel accommodations increases. Competition will be keen for those positions higher on the ladder.

HOTEL

DOORMAN
(D.O.T. 324.878)

Job Summary (Entry Level Position)

A doorman greets, welcomes, opens doors and offers general assistance to guests on arrival and departure; parks cars at the request of guests; obtains taxicabs at the request of guests and provides information as requested.

Qualifications

Qualifications for this entry level position are virtually the same as for the Bellman position previously described. It should be remembered that most hotels hire from within, that is, they promote their employees to higher positions needed. This entry level position is where an individual will start. Many employers see starting on the entry level as almost a necessity for the individual to get "a feel" for the occupational cluster he will be involved in--to get the total picture. Only through prior experience as a bellboy or bell captain at another hotel will an individual avoid this entry level position.

Training Programs

1. Like nearly every position in hotel work the training for doormen is done on-the-job, usually so that the employer can gear the employee's training in line with the needs of the particular hotel.
2. Other contacts an individual can make regarding employment and/or training are:

The Pacific Training Council, Recruitment Office
Telephone: 949-8978

Employment Service, Hotel and Restaurant Workers Union
Telephone: 946-2114

FRONT OFFICE CLERK
(D.O.T. 242.368)

Job Summary

The front office clerk greets guests, rents rooms, handles mail, and other work related to assigning rooms. He deals directly with the public and helps to establish the hotel's reputation for courteous and efficient service. In smaller hotel establishments he may also do some bookkeeping and act as cashier. In larger hotels he may be assigned to several different types of specialties such as: room or desk clerk; reservations clerk; rack clerk; key, mail or information clerk; and floor clerk.

Qualifications

1. High school graduation generally required
2. Clerical aptitude, neatness, courteousness, friendliness and ease in dealing with people
3. Hotel employers are increasingly attaching greater importance to college training in selecting personnel for advancement to managerial positions after working for a time as a front office clerk. In Hawaii there are three primary types of training available:

    Kapiolani Community College--Mid-Management Program
    Cannon's College of Commerce--Mid-Management Program
    University of Hawaii--TIM Program

Further information regarding these programs can be obtained from the Training Programs Division.

Promotional Opportunities

1. Key or Rack Clerk
2. Room Clerk
3. Assistant Front Office Manager
4. Front Office Manager

Places of Employment

Front office clerks are almost always employed in the hotel industry. Their type and extent of work generally depends on the size and type of hotel.

Employment Outlook

Employment is very stable in this occupation. Does not expand and contract as do other hotel occupations with the economic trend. Jobs will be primarily filled by clerks at lower levels.

Current Salary

$3.29/hr.

HOTEL

FRONT OFFICE MANAGER
(D.O.T. 163.118;
187.118 & .168)

Job Summary

The front office manager is reponsible for operating his establishments profitably and at the same time, providing maximum comfort for guests. He directs and coordinates the activities of the front office, kitchen and dining rooms, and the various hotel departments, such as housekeeping, accounting, personnel, purchasing, publicity and maintenance. He makes decisions on room rates, establishes credit policy, improves operations and has final responsibility for dealing with many other kinds of problems which arise in operating hotels and motels.

Qualifications

1. Individual must have proven himself at the front office level
2. Successful hotel experience is needed as a basic criterion, and a general emphasis recently has been on a specialized curriculum in hotel and restaurant administration. This type of curriculum can be found locally at:

    Kapiolani Community College--Mid-Management
    Cannon's College of Commerce--Mid-Management
    University of Hawaii--Travel Industry Management

For further information regarding the extent of these programs, please consult the training programs division of this chapter.

Promotional Opportunities

This is generally considered the top of the ladder in the Front Office division of the hotel industry. Individuals interested in pursuing a career generally begin at the Front Office Clerk level, gaining valuable experience in summer and part-time employment.

Places of employment

Front office managers are exclusively employed within the hotel industry.

Employment Outlook

Rapid employment expansion is seen in this field as hotel construction increases on the Neighbor Islands and more qualified personnel are turned out by the universities and community colleges.

Current Salary

$600/mo. average

GENERAL MAINTENANCE MAN
(D.O.T. 381.887)

Job Summary

The general maintenance man keeps the physical structure of the hotel in good repair, making repairs to mechanical equipment usually found in a hotel; doing painting, carpentry, plumbing, electrical maintenance and repair and television repair, etc. He has a high degree of skill in the tools of at least one trade and a moderate degree of skill in the tools of other trades. He works under general supervision of the maintenance superintendent or working foreman, but is able to work by himself on jobs assigned.

Qualifications

1. High school diploma or its equivalent
2. Usually to satisfy the need for high degree of skill in at least one trade, completion of an extensive apprenticeship program is desired. For information on the various maintenance trades and their apprenticeship programs, see the Construction Trades Section.
3. Two-year programs leading to an Associate in Science Degree are also beneficial. These are available in the community colleges. Again, refer to the Training Programs Division of the Construction Trades Section for further information.

Promotional Opportunities

1. Maintenance Superintendent
2. Working Foreman
3. Chief Engineer
4. Resident Manager (small hotel)

Places of Employment

1. Outside and inside hotel unit
2. Outside the Hospitality field work in a variety of occupations related to the building trades

Current Salary

$4.64/hr.

Employment Outlook

A moderate increase in employment is anticipated as hotel expansion increases on the outer islands and as hotels continue to need maintenance. May be limited by new technology which may increase the efficiency of the machines and workers.

HOTEL

HOUSEKEEPER
(D.O.T. 321.138)

Job Summary

The housekeeper is responsible for keeping the hotels clean and attractive. She accounts for furnishings and supplies; hires, trains, and supervises the maids, linen room and laundry workers, housemen, seamstresses, and repairmen; keeps employee records, and performs other duties which vary with the size and type of hotel. In a smaller hotel she may be responsible for many of the maid's duties. In a larger hotel, function is primarily administrative. She makes regular reports to the manager on budgets, inventories, conditions of rooms and need for repairs.

Qualifications

1. A high school diploma and prior experience in a housekeeping related job, such as a room maid or assistant housekeeper
2. There is a recent emphasis on upgrading the housekeeper's position so that many community colleges and universities are offering courses in it. Two schools in the island which offer extensive courses in Housekeeping are:

    Cannon's College of Commerce
    Kapiolani Community College

For further information regarding the extent of these programs refer to the Training Programs Section.

Promotional Opportunities

1. Desk Clerk--Front Office
2. Executive Housekeeper

Places of Employment

Housekeepers are almost entirely employed in the hotel field. Depending on the size of the hotel, and whether it is luxury or commercial, duties will vary.
They may also be employed in the following:

Employment Outlook

New positions will become available as new hotels are built, but the established hotels will be hiring from within by promoting hotel maids and assistant housekeepers. Opportunities for employment would be better for these vacated entry level positions.

	Current Salary
1. Hospitals 2. Clubs 3. College Dormitories 4. Welfare Institutions	$2.80+/hr.

JUNIOR CLERK
(D.O.T. 242.368)

Job Summary (Entry Level Position)

Although it goes under many names, the Junior Clerk is the position at the bottom of the promotion ladder within the Front Office Clerk cluster. This clerk may be assigned any station in the front office, reservations and tour department in order to become qualified and have a working knowledge of all clerical positions in the department. He works under supervision.

Qualifications

1. In general, identical to those for Front Office Clerk
2. Remember that this entry level position for Front Office work is usually where all inexperienced individuals must begin unless they have had prior experience as a clerk in another hotel.

Training Programs

1. Identical to those mentioned for Front Office Clerk
2. Other posssible contacts an individual can make regarding employment and/or training are:

The Pacific Training Council, Recruitment Office
Telephone: 949-8978

Employment Service, Hotel and Restaurant Workers Union
Telephone: 946-2114

The various hotels and motels in Hawaii. See the list following the training Programs Division for specific contacts in the Personnel Divisions of the various hotels.

See Office and Clerical: Junior Clerk

MAINTENANCE TRAINEE
(D.O.T. 381.887)

Job Summary (Entry Level Position)

The maintenance trainee works under the supervision of and assists general maintenance men in the performance of their duties, while performing on-the-job training in order to become qualified for promotion to general maintenance man. This position is generally filled from the ranks of utility men.

Qualifications

1. Essentially the same as those of the General Maintenance Man, except for the need for more formal experience in the latter position
2. Unless the prospective employee has a great deal of prior experience in hotel maintenance work, he will begin, as all inexperienced hotel workers do, at the entry level position of his particular category.

Training Programs

1. These are the same as those mentioned for the General Maintenance Man.
2. Other possible contacts an individual can make regarding employment and/or training are:

The Pacific Training Council, Recruitment Office
Telephone: 949-8978

Employment Service, Hotel and Restaurant Workers Union
Telephone: 946-2114

The various hotels and motels. See the list following the Training Programs Division for specific contacts in the Personnel Divisions of the various hotels.

PERSONNEL DIRECTOR
(D.O.T. 166.188)

Job Summary

The personnel director is in charge of employing, recruiting, processing and training all employees and maintaining those records which are necessary for adequate management of employees. He may also handle employee complaints, organizing and writing of employee job descriptions and analysis of better employee management and budgeting.

Qualifications

1. Considerable on-the-job experience in the hotel personnel field
2. More and more employers seek individuals who have had a complete university training experience in Travel Industry and Management, Business Administration or Liberal Arts to groom for their top level management positions. More information on the university programs in this area can be found in the Training Programs Division of this job section.
3. Adequate performance on an entry level position in the personnel division

Promotional Opportunities

1. Sales Director
2. Hotel-motel Director

Current Salary

Varies with size and responsibility: $600 to $800/mo.

Employment Outlook

Demand for qualified and experienced managerial type individuals will no doubt increase as tourism and hotel construction increase in the islands. Competition will be great for these positions.

Places of Employment

Large hotels and motels

HOTEL

ROOM MAID
(D.O.T. 323.887)

Job Summary (Entry Level)

A room maid performs routine tasks of cleaning and servicing guests' accommodations such as rooms, suites, baths, lanais, breakfast bar, etc. She also performs routine jobs under little or no direct supervision. However, work is subject to inspection by superiors.

Qualifications

The same as those listed under Housekeeper.

Training Programs

1. For Room Maid, as with nearly every other position, the training is done 'on-the-job', usually so that the employer can gear the employees training so that it will be in line with the specific desires of the particular hotel.
2. Other contacts an individual can make are the same as those mentioned under Housekeeper--again, refer to the Training Programs Section of this group.
3. For information regarding employment and/or training, contact:
    a. The Pacific Training Council, Recruitment Office
    Telephone: 949-8978
    b. Employment Service, Hotel and Restaurant Workers Union
    Telephone: 946-2114
    c. Hotels and their personal contacts. Some of these are listed at the end of the Training Programs section.

SALES REPRESENTATIVE-MANAGER
(D.O.T. 254.258)

Job Summary

The sales representative-manager plans and executes sales promotion and advertising programs to spur business through the various local media and national media--newspapers, television, radio and magazines and direct mail. He organizes and supervises the sales department and coordinates the activities of the sales department with the various departments within the establishment.

Qualifications

1. Usually considerable on-the-job experience in the hotel sales trade is a pre-requisite for this top level position.
2. Completion of university training in Travel Industry Management, Business Administration or Liberal Arts is also a preferred quality although an individual who has had many years of experience may progress this far without the degree. For more information on the university programs in this area, please refer to the Training Programs Division.

Promotional Opportunities

1. Personnel Manager
2. Hotel Manager

Places of Employment

Primarily hotels and motel of fairly large size

Current Salary

$500 to $800/mo.

Employment Outlook

Demand for qualified and experienced managerial type individuals will no doubt increase as tourism and hotel construction increase in the islands. Competition for these positions will be great.

FOOD SERVICES SECTION

ASSISTANT BAKER
(D.O.T. 313.884)

Job Summary (Entry Level Position)

The assistant baker assists the baker in baking bread, bread rolls, muffins, and biscuits. He greases pans and works under the supervision of the baker or head baker; keeps the bakery shop clean and orderly.

Qualifications

1. Same as those listed under the Baker
2. This would be the entry level position for baking. Unless the individual has prior experience in baking, he will be placed at entry level, since most hotels and restaurants promote from within.
3. With community college or high school training, the individual would have the advantage of getting selected over someone without training, and being promoted faster once within the system.

Training Programs

1. Essentially the same as those listed under the qualifications section of Baker.
2. Additional information on employment and/or training may be obtained from the following sources:

Pacific Training Council
Recruitment Division
Telephone: 949-8978

Employment Service
Hotel-Restaurant Workers Union
Telephone: 946-2114

All the individual hotels one might be interested in are listed at the end of the Training Programs Division.

FOOD SERVICE

ASSISTANT COOK
(D.O.T. 317.887)

Job Summary (Entry Level Position)

The assistant cook assists in the cooking of food products, such as vegetables and meats, under the supervision of the general cook. He helps general cook prepare meals, cooks as directed, performs simple tasks such as watching, turning, and stirring food; chops and trims meats and fish prior to cooking, may portion cooked foods as instructed by cook; may perform night work or work on a grill or service; may act as vegetable or fry cook and may substitute for cook when required.

Qualifications

1. Identical to those mentioned for Cook
2. Regardless of training, unless the individual has had prior experience working in a hotel or restaurant food service division he will begin at the entry level position. This is primarily because the hotel industry hires its positions above the entry level position from its own ranks. Perhaps the desperate need for qualified cooks will change the status of employment for this particular job.

Training Program

Due to the shortage of qualified cooks, training programs in this area are beginning to pop up all over the islands. For information on the apprentice cook program contact:

Hotel and Restaurant Workers Union
Employment Service
Telephone: 946-2114

FOOD SERVICE

BAKER
(D.O.T. 313.781)

Job Summary

The baker bakes bread, rolls, muffins, and biscuits and danish pastry for consumption in dining rooms of restaurants and hotels; mixes ingredients to make dough, cuts and shapes dough by hand or machine; and supervises bakers' assistants and baker's helpers.

Qualifications

1. On-the-job experience as a baker-trainee or baker-helper
2. Many of the community colleges and private institutions in Hawaii are orienting their programs toward food preparation as the need for trained individuals increases and tourism expands. Some of the schools offering related programs in Baking are listed below. For more specific information see: Training Programs Section.

   Kapiolani Community College--Food Service
   Hawaii Community College--Food Service
   Maui Community College--Mid-Management
   Cannon's College of Commerce--Food Service

Promotional Opportunities

1. Head Baker
2. Head Pantryman
3. Sous Chef

Places of Employment

1. Large restaurants
2. Hotels
3. Catering services
4. Large hospitals
5. Large schools

Current Salary

$2.98/hr.

Employment Outlook

Demand should remain fairly moderate in increase as tourism expands on neighbor islands and restaurants and hotels are seeking better qualified personnel to staff their food services.

FOOD SERVICE

BAR PORTER
(D.O.T. 312.887)

Job Summary (Entry Level Position)

The bar porter carries supplies and equipment such as liquors, fruits, dishes, ice, linen and silverware from storeroom to bar, using a hand truck; slices and pits fruits; chips ice with ice pick; washes bar fixtures, mops floors, washes and sterilizes bar glasses and utensils; carries empty bottles and debris to refuse containers. Performs other similar tasks under close supervision.

Qualifications

1. The same as those indicated under Bartender
2. Unless the applicant has prior experience, he will start at this position. With prior training he may be able to get the position above someone else, and may be promoted faster.

Training Program

1. Essentially the same as those listed under Bartender.
2. For more information regarding employment as a Bar Porter contact the following:

   Pacific Training Council
   Telephone: 949-8978

   Employment Service,
   Hotel-Restaurant Workers Union
   Telephone: 946-2114

   Some of the various specific hotels and motels in Hawaii: as brief list is provided at the end of the Training Programs section.

FOOD SERVICE

BARTENDER
(D.O.T. 312.878)

Job Summary

The bartender has a knowledge of his trade needed for service in a hotel or bar in Hawaii. He prepares, mixes, and serves alcoholic or fruit drinks (including service from cart); receives payment and makes change; maintains and accounts for a bank; insures that the bar area is in a clean, orderly condition; gives bar porters who wish to learn on-the-job training in bartending.

Qualifications

1. Usually requires some training in an institution devoted to training bartenders or considerable on-the-job training as a bar porter and assistant bartender. Two programs that train bartenders in Hawaii are:
   Cannon's College of Commerce
   Bartenders Training Academy

Promotional Opportunities

1. Head Bartender
2. Beverage Manager
3. Food and Beverage Manager

Places of Employment

1. Hotels
2. Restaurants
3. Bars
4. Catering Services

Current Salary

$3.78/hr.

Employment Outlook

As the tourist industry expands in Hawaii, this job will expand--especially due to influx of Japanese tourists and neighbor island expansion.

FOOD SERVICE

CASHIER
(D.O.T. 269.468)

Job Summary

The cashier receives payment for meals either from customer or waiter or waitress. He must be accurate and fast in making change; may do some tabulating and record keeping; may handle customer complaints; must be tactful and courteous.

Qualifications

1. No particular educational qualifications exist, although more and more employers are emphasizing at least completion of high school since position requires some knowledge of mathematics and an individual of mature and responsible character.
2. Ability to meet with the public and be a good representative of the establishment while doing so
3. Neat in appearance
4. Although no training is necessary, some experience in dining room and mid-management techniques at the community college or private school level might be beneficial. Many of these are listed under the training programs section of this job cluster.

Promotional Opportunities

1. Waiter-Waitress
2. Host-Hostess
3. Dining Room Manager

Places of Employment

1. Restaurants
2. Hotels
3. Any establishment which has a profit-making eating place

Current Salary

$2.50/hr.

Employment Outlook

This is a fairly stable position, and as the industry increases in Hawaii, and individuals are promoted, many cashier positions will become available.

COCKTAIL WAITRESS
(D.O.T. 311.878)

Job Summary

The cocktail waitress obtains patrons' orders and serves beverages; suggests cocktails, highballs or liquors; maintains clean station, clearing tables after customers finish; serves drinks and dessert often at the bar tables; also may serve meals there.

Qualifications

1. Essentially the same as those discussed under waiter-waitress
2. There are two specific programs in Hawaii that train cocktail waitresses:

    Cannon's College of Commerce
    Bartenders Training Academy

Consult the Training Programs Section for further information.

Promotional Opportunities

The same as waiter-waitress

Places of Employment

Usually employed in the bar section of the restaurant or may be employed in a private bar.

Current Salary

Slightly higher than a regular waiter-waitress

Employment Outlook

The same as waiter-waitress

FOOD SERVICE

COOK
(D.O.T. 313.138, 313.381)

Job Summary

The head cook of chef of a hotel or restaurant coordinates the work of the kitchen staff and is almost alway a highly skilled cook who often may take direct charge of certain kinds of food preparation. He decides on the size of the food portions served, and sometimes plans menus and purchases food supplies. There are also more specific areas of work associated with cooking, and many times a cook will specialize in one of the following:

1. Fry Cook: fries meats, fish, fowl, fruit, eggs in deep or shallow fat, prepares and cooks vegetables.
2. Vegetable Cook: prepares, boils, steams, or bakes vegetables for service to customers or for use by other cooks. Fries vegetables in deep grease.
3. Breakfast Cook: prepares and cooks to order bacon, French toast, eggs, sausage, hash, hot cakes, waffles, fish cakes, fried potatoes, hot cereals and other meats or fish to be fried or broiled for breakfast.

Qualifications

1. Many cooks would start at the entry level position of kitchen helper and would gain their skills while on the job.
2. Completion of one of the many training programs available in food preparation and cooking would be beneficial and might aid an individual in beginning above the entry level position of kitchen helper. Some of the programs offered are:

   Kapiolani Community College, Food Service
   Maui Community College, Mid-Management
   Hawaii Community College, Food Service
   Cannon's College of Commerce
3. A formalized apprenticeship program for Dinner Cook is being conducted by the Hotel and Restaurant Workers Union, where an individual takes related courses at Kapiolani Community College and works on-the-job learning cooking techniques from a skilled cook.

4. Cleanliness, the ability to work under pressure, physical stamina and a keen sense of taste and smell.

Promotional Opportunities

Within the area: horizontally from fry to vegetable to dinner cook

Places of Employment

1. Hotels
2. Restaurants
3. Hospitals
4. School cafeterias
5. Catering services

Current Salary

Fry: $3.72/hr.
Vegetable: $3.72/hr.
Breakfast: $3.50/hr.
Dinner: $3.85/hr.

Employment Outlook

Outlook is excellent in this field for Hawaii. There is a lack currently for qualified cooks to work in the restaurants and hotels in the islands. Employment for well-qualified beginners will be excellent--training is so important.

(See Transportation: Ship's Cook)

COST CONTROL CLERK
(D.O.T. 161.268)

Job Summary

In general, the cost control clerk assists food and beverage controller in proper internal control procedures, including keeping records, studies and controls of food and beverage costs.

Qualifications

Generally these are the same as those indicated for Food Beverage Controller, although only a community college degree may be needed for the entry level position. Many community colleges and private schools have programs for hotel clerks. For example, the Mid-Management programs are offered at:

Kapiolani Community College
Maui Community College
Cannon's College of Commerce

Training Programs

1. These are the same as those mentioned under the qualification section of Food-Beverage Controller.
2. Completion of one of the mid-management programs at the community college level would also be helpful.

FOOD SERVICE

DISHWASHER
(D.O.T. 318.887)

Job Summary (Entry Level Position)

The dishwasher scrapes and washes dishes, silverware and utensils by hand or machine as the primary duty; sorts, stacks and washes dishes, glassware and utensils; may assist kitchen helper or other kitchen personnel as required; may do incidental cleaning of the area.

Qualifications

1. No particular educational qualifications exist, although more and more employers are emphasizing at least two to three years of high school so individual can acquire certain basic skills.
2. Good physical condition

Promotional Opportunities

1. Kitchen Helper
2. Busboy

Places of Employment

1. Restaurants
2. Hotels
3. School cafeterias
4. Catering services
5. All institutions having eating facilities for profit or non-profit.

Current Salary

$2.35/hr.

Employment Outlook

Employment is fairly stable. Improved automated techniques for washing dishes may limit employment somewhat.

FOOD-BEVERAGE CONTROLLER
(D.C.T. 161.188)

Job Summary

The food-beverage controller is responsible for the records, studies, and control of all food and beverage costs, keeping an accurate account of how and where money is spent; analyzing better ways of spending money, and budgeting supplies.

Qualifications

1. On-the-job experience as a cost control clerk
2. Although the inexperienced individual will probably enter at the Cost Control Clerk position, educational experience at the univeristy level in either Travel Industry Management, Home Economics, Business Administration or Liberal Arts would be beneficial in getting him the job initially, and in insuring quick promotion to Food-Beverage Controller. Usually the individual who has a university degree indicates to his employer that he has the maturity and intelligence needed for a managerial position such as this.

Promotional Opportunities

1. Assistant Auditor
2. Catering Manager
3. Assistant Food and Beverage Manager

Places of Employment

1. Large restaurants
2. Hotels
3. Catering services
4. Schools--cafeterias

Current Salary

$450 to $650/mo.

Employment Outlook

As the number and complexity of hotels increases in Hawaii, the demand for qualified managerial-type individuals will be great, although competition will be keen.

FOOD PRODUCTION MANAGER
(D.O.T. 187.168)

Job Summary

The food production manager has charge of all food preparation. He must have knowledge of food preparation and appreciation of good food standards. He must be proficient in cost control. He supervises kitchen staff so he must know how to work with and direct people.

Qualifications

1. Usually position is acquired through on-the-job training, as in most hotel positions, with individual starting out as kitchen helper or assistant cook and progressing upwards.
2. Qualified training in a community college, private school or university may make individual eligible for prompt promotion and may give him the edge over an untrained individual in acquiring the entry level position. Sources which have training programs which an individual might look into follow. Descriptions of these are included in the training programs section of this job cluster.

Kapiolani Community College: Mid-Management
Maui Community College: Mid-Management
Hawaii Community College: Restaurant and Food Service
Cannon's College of Commerce: Mid-Management
University of Hawaii: Travel Industry Management

Promotional Opportunities

1. Executive Chef
2. Hotel Manager

Places of Employment

1. Restaurants
2. Hotels
3. Cafeterias-schools
4. Hospitals
5. Catering services

Current Salary

$500 to $850/mo.

Employment Outlook

As the number and complexity of hotels increases in Hawaii, the demand for qualified managers in the upper positions of the hotel industry will be great, although competition for these positions will no doubt be very keen.

HOST-HOSTESS
(D.O.T. 310.868)

Job Summary

The host-hostess is responsible for the smooth operation and cleanliness of the dining room under direction of room manager or assistant; allocates waitress and waiters to stations; directs, waitresses and bus boys in their duties; checks tables to see that they are properly set; assists waitresses in emergencies, takes and sets up reservations, greets and seats guests, issues menus, and performs other related duties.

Qualifications

1. On-the-job experience and adequate performance as a waiter or waitress or busboy/girl
2. Although it is not a standard requirement, many employers are emphasizing the need for at least two to three years of high school.
3. For those interested in obtaining training in dining room techniques, there are many programs available in Hawaii. Consult the training programs section of this division.
4. Neat personal appearance, a pleasant manner, an even disposition, and the ability to cope with the rush of business
5. In Hawaii, knowledge of a foreign language may be desirable, particularly Japanese.

Promotional Opportunities

1. Assistant Manager, Dining Room
2. Manager, Dining Room

Places of Employment

1. Restaurants
2. Hotels
3. Educational institutions
4. Private clubs

Current Salary

$2.51/hr.

Employment Outlook

Outlook is good as population expands and the need grows for more eating establishments. The neighbor islands indicate growth in this area.

FOOD SERVICE

KITCHEN HELPER
(D.O.T. 318.887)

Job Summary (Entry Level Position)

The kitchen helper does a variety of simple manual tasks in the kitchen or dining room and may assist in the routine preparation of foods for cooking. He works under immediate supervision or in accordance with prescribed procedures; performs simpler tasks such as cutting, peeling, and washing vegetables and fruits and preparing other foods in the kitchen according to instructions; stacks dishes, washes pots and pans, scrubs floors, wipes tables, sets up food trays, prepares food for serving by placing it on serving trays, may serve beverages and food at tables, may receive, check and store supplies.

Qualifications

1. No qualifications as far as education exist, although more employers are asking for at least two to three years of high school.
2. Should be able to follow instructions precisely as directed, work well with others and undertake simple tasks
3. Should have good physical strength for lifting, carrying, etc.
4. Although no training is required for this position, some community college experience in dining room or cooking may lead to a fast promotion to Assistant Cook, which may then open up to Cook.

Promotional Opportunities

1. Assistant Cook
2. Cook
3. Food Service Manager

Current Salary

$2.35/hr.

Places of Employment

1. Restaurants
2. Hotels
3. School cafeterias
4. Hospitals
5. Catering services

Employment Outlook

This is a fairly stable position, since it is an entry level position. Many positions open up due to people being promoted to higher levels of food service employment.

FOOD SERVICE

WAITER-WAITRESS
(D.O.T. 311.138, .878)

Job Summary (Entry Level Position)

The waiter-waitress takes orders and serves meals and beverages to customers, makes out charge slips for food and/or beverages served to individual patrons or groups of patrons; may set tables and perform various duties incidental to the furnishing of prompt service to patrons such as answering questions concerning food and food preparation; makes suggestions for ordering; may be required to perform duties of busboy/girl,

Qualifications

1. The same as those indicated for Host-Hostess
2. Since competition is often keen for positions in Hawaii, and since this is an entry level position where most beginners start, it would be to an individual's advantage to make use of many of the training programs indicated in the training programs section of this job division. Although training might not give a position above the entry level position, it will give a foot in the door before someone who does not have the training, and will give a boost in promotional opportunities.

Training Programs

See the brief list of hotels in Hawaii for personnel contacts at the end of the Training Programs Section.

RECREATION SERVICES SECTION

RECREATION

LIFEGUARD

Job Summary

The lifeguard patrols a beach area or swimming pool. He rescues swimmers and assists others in distress. He enforces ordinances, laws and beach regulations and performs other related duties as required. Examples of duties might include: writing and submission of accident reports to Water Safety Director, swimming or use of surfboard and/or other lifesaving equipment to rescue people in distress, applying of artificial respiration when needed, etc.

Qualifications

1. A combination of education and experience equivalent to graduation from high school.
2. Possession of a Red Cross Senior Lifesaving Certificate, a standard first-aid certificate, and a valid motor vehicle operator's license
3. Knowledge of techniques and methods of livesaving and the use of lifesaving equipment, first aid principles and practices, techniques of artificial respiration
4. Ability to swim long distances; rescue persons from water, handle efficiently a surfboard and canoe; give first aid; recognize need for the professional care of a physician; write reports describing incidents occuring in assigned area; enforce regulations tactfully and effectively
5. Between 20 and 35 years of age
6. Completion of the Leeward Community College Recreational Instructor program would be beneficial in promotional opportunities.

Promotional Opportunities

1. Recreation Assistant
2. Recreation Instructor
3. Recreation Specialist
4. Senior Life Guard

Current Salary

$555 - $709/mo.

Places of Employment

1. City, State and Federal Departments of Parks and Recreation
2. School recreational programs
3. Private agencies
4. Voluntary youth agencies: YMCA, etc.
5. Camping associations with water facilities

Employment Outlook

Employment is expected to increase rapidly due to increase in leisure time, rise in per capita income, and expansion of population that will demand expansion of recreational program. Here in Hawaii, recreation will be of even greater value due to our all-year-around weather and attraction as a tourist spot.

Job Summary (Entry Level Position)

Through on-the-job experience, a park aid develops skills and knowledge of practical park operations. He works at the more basic tasks involved in fire-fighting, conservation programs, providing information to the public, enforcing the law, operating campgrounds, and other jobs related to park and recreation area operation.

Qualifications

1. At least one half to one year's experience in a park or similar situation; may also qualify with high school education and one year of college related studies
2. Ability to pass a written Civil Service examination

Training Programs

The same as that mentioned under qualifications of Park Technician.

Benefits

Since this is primarily a Federal Civil Service position, benefits will be very generous regarding sick and annual leave and pension funds.

Job Summary

The park caretaker cares for, maintains, and beautifies an assigned park area, playground or gymnasium; may operate a power mower and performs other related duties as required. These may include: cleaning of comfort stations, pavilions, gymnasiums, swimming pools, water fountains, and other facilities in public parks; enforcing rules and regulations applicable to the protection of public safety and public property; operating light motorized or power equipment and tools as required, etc.

Qualifications

1. Combination of education and experience equivalent to an eighth grade education for all levels, and, if above the entry level Park Caretaker position, at least three years of experience in manual and semi-skilled work involving contact with one or more building trades and with grounds-keeping activities
2. Knowledge of the care and cultivation of shrubs, flower, trees, and lawns; operation and care of grounds and general construction equipment and tools; and common methods and materials used in simple construction and maintenance work
3. Ability to understand and carry out oral and written instructions; deal effectively and courteously with the general public; operate vehicles and simple machinery; perform heavy manual work; learn territorial laws, rules and regulations and enforce them; and make simple oral and written reports.

Promotional Opportunities

1. Park Caretaker I
2. Park Caretaker II
3. Park Caretaker III

Places of Employment

1. City, State and Federal Departments of Parks and Recreation
2. Private firms having parks
3. Botanical gardens

Current Salary

$4,800 - $5,976/year

Employment Outlook

Employment is expected to increase rapidly due to the increase in leisure time and rises in per capita income. Also population increase will demand expansion of programs. Here in Hawaii, recreation will be even of greater value due to our all-year-round weather and attraction as a tourist spot.

Job Summary

The park historian researches and compiles historically significant information on sites, structures and objects in the State of Hawaii and may recommend preservation and/or restoration. He prepares reports on historical subjects; reviews the activities of professional researchers on related projects as requested; and performs other duties as required.

Qualifications

1. Knowledge of Hawaiian historical sources; historical research techniques; methods of preserving and interpreting historical area, sites, structures and objects, report writing
2. Ability to evaluate and determine significance of sites depicting the cultural history of Hawaii; prepare reports, articles and interpretive material on historical subjects; speak effectively, understand the law relating to the field; keep up with professional developments in the field; establish and maintain effective working relationships with others and evaluate the professional and technical work of consultants
3. Completion of at least a four-year program in a university or college related to history, particularly that of the Hawaiian Islands

Promotional Opportunities

1. Chief Park Historian
2. Park Superintendent

Places of Employment

Department of Parks and Recreation--State

Current Salary

$9,840/year

Employment Outlook

Although very few positions now exist, many sources indicate that recreation will see a boom in the 70's, and that many individuals will be seeking historical information.

RECREATION PARK SUPERINTENDENT

Job Summary

The park superintendent plans, coordinates and directs the maintenance and operation of State parks and historic sites; maintains on-site surveillance of contract construction; performs other duties as required.

Qualifications

1. Graduation from high school or equivalent experience
2. Specialized experience in one or any of the following: operation and maintenance of a park or other similar facility; professional, technical, administrative, investigational or other work which required knowledge of management and operations; work experience which involved the planning, design or construction of parks or other similar areas
3. If applying for a position above Park Superintendent I, the individual also needs supervisory and administrative experience.
4. Must pass certain State examinations

Promotional Opportunities

Park Superintendent I, II, III, & IV

Current Salary

$8,508/year

Places of Employment

Various State parks throughout the islands

Employment Outlook

As the recreational and leisure time of the population increases, there will be an increased need for qualified managerial positions and the individuals to fill them.

Job Summary

The park technician performs a wide variety of functions, usually following the direction or plans of Park Rangers. He works on fire-fighting crews, and conservation teams working on soil erosion, plant and insect control projects. He carries out plans to preserve and restore buildings and sites. He also operates campgrounds, assigns sites, replenishes firewood, performs safety inspections, provides information to visitors.

Qualifications

1. At least two years' experience in a park or similar situation or two years of college level studies related to park operations. An individual might look into some of the varied programs available in the community college system and at the University of Hawaii.

Promotional Opportunities

1. Head Park Technician
2. Park Ranger

Places of Employment

1. National parks
2. Historic and recreation areas

Current Salary

$5,853 per year + 15 % COLA
(Cost of Living Allowance)

Employment Outlook

Currently in Hawaii, there are a very limited number of these positions due to the limit on national park sites. As population increases, an increase in demand will probably occur.

Job Summary (Entry Level Position)

The recreation assistant assists in public recreational activities by planning and conducting instruction within recreation specialties, such as performing arts, creative arts or sports, and/or assists in the planning and implementation of specialty programs.

Qualifications

1. A combination of education and experience equivalent to graduation from high school
2. Depending on level of entry, one, two or three years of experience in the specialty (i.e.,swimming, tennis) to be taught
3. Swimming only: same as Recreation Instructor
4. Knowledge of same principles and practices as Recreation Instructor
5. Ability to demonstrate, plan and organize activities, stimulate interest and inspire confidence and enthusiasm in participants; keep records and prepare reports, maintain good working relationships with the staff and public; supervise others as required

Training Programs

1. Leeward Community College: Recreation Instructor Program. See Training Program Section for more information.
2. Background in high school related to recreation

Benefits

Depends on what particular agency, either governmental or private, to which the individual belongs.

RECREATION INSTRUCTOR
(D.O.T. 153.228)

Job Summary

The recreation instructor plans and conducts instruction in an area of recreational specialty such as hula, handcrafts, native dancing, sports, etc.; and performs other related duties as required. He works with a recreation specialist in planning programs and gives instructions to an assigned group; adapts techniques and methods to the particular group served, assists in preparing costumes, scenery props as needed, and prepares reports on classes conducted, attendance and the like.

Qualifications

1. A combination of education and experience equivalent to graduation from high school and one year of experience in the specialized activity to be taught
2. For a Swimming Instructor only: possession of a Red Cross Senior Lifesaving, standard first aid, water safety instructor certificates
3. Knowledge of the rules, principles, practices, equipment, tools and techniques of the specialty, principles and practices of instruction, and group behavior. A professional program which emphasizes these points is available at Leeward Community College, taking two years, and leading to an Associate in Science degree in Recreation
4. Health and physical condition standards deemed necessary and proper for performance of duties

Promotional Opportunities	Current Salary
1. Recreation Specialist 2. Recreation Director	$457 - $583/mo.

Places of Employment

1. Department of Parks and Recreation
2. School recreational programs
3. Private agencies
4. Voluntary youth agencies--YMCA
5. Camping associations

Employment Outlook

Employment is expected to increase rapidly in 70's due to the increase in leisure time and rises in per capita income. Also population increase will demand expansion of programs. Here in Hawaii, recreation will be of even greater value due to our all-year-round weather and attraction as a tourist spot.

RECREATION SPECIALIST
(D.O.T. 187.118)

Job Summary

The duties of the recreation specialist usually are dependent on what specialty the individual gets involved in:

Arts and Crafts:

organizing and teaching arts and crafts in such activities as art, metal, and jewelry, ceramics, drawing and painting, photography, leathercraft, woodworking and model building.

Entertainment:

planning dramatic and musical productions, including responsibility for directing and supervising all phases such as writing, lighting, choreography, stage design and construction, costuming, music, arrangement and adaptation, and the integration of these elements.

Service Clubs:

organizing and supervising a diversified recreation program for a club or center; planning and conducting talent shows, contests, picnics, tours, dances, holiday observances, musical programs, organizing or leading discussions and hobby groups.

Sports:

organizing and directing a variety of individual and team sports including coaching and officiating, arranging athletic programs to fit differing abilities from the novice to the professional, organizing and conducting clinics for coaches and officials and maintaining sports facilities.

Youth Activities:

organizing and supervising a diversified recreation program for children and teenagers such as social activities, sports and games.

Qualifications

1. A bachelor's degree in a specialization with 24 semester hours in appropriate subjects or a bachelor's degree in recreation with 15 semester hours in appropriate subjects will be considered as fulfilling part of the required combination of education and experience, the length of which is dependent on what level the individual enters at.
2. Basic elements for all positions:

Creativity

Initiative and Perseverance

Ability to Communicate

Ability to Work with Others

Adaptability and Flexibility

Promotional Opportunities

Recreation Director

Salary

$709 - $904/mo.

Places of Employment

1. Federal, State and City and County Departments of Parks and Recreation
2. School recreational programs
3. Private agencies
4. Voluntary Agencies--YMCA, Boy Scouts
5. Camping associations

Employment Outlook

Employment is expected to increase rapidly as leisure time increases and per capita income rises. Also population increase will demand expansion of programs. Here in Hawaii, recreation will be of even greater value due to out year-round weather and attraction as a tourist spot.

Job Summary

Prior to Group Arrival: checks out file on group to escort and becomes familiar with it, reconfirms airline arrival time, coordinates arrival with transportation and baggage handling company and airport greeter, coordinates and prechecks group with hotel, coordinates baggage handling with bell boys.

Airport Procedure: meets flight on arrival, briefs tour, dispatches equipment to hotels, insures proper handling of baggage.

"In Port" Procedure: Assists with hotel check-in and any rooms or hotel changes; checks on luggage delivery and any problems concerning loss or damage to luggage; maintains certain hours at travel desk; sells optional tours, collects cash, issues coupons and accounts for such; dispatches all tours, cruises and transfers to special activities or night events; accompanies group as requested by Escort Coordinator and works with hotels and bell boys on check-outs; distributes service orders to contractors noting any changes; arranges for hospitality room when necessary.

Qualifications

1. Extroverted, intelligent, diplomatic individual who has knowledge of the islands
2. Training is primarily on-the-job--a seasoned tour escorter will show the novice the ropes and when he feels he is ready, he handles his own tours.
3. Some employers would prefer a high school graduate.
4. Experience at the community college or private school level might be beneficial in tackling a job initially and in quick promotion.

Promotional Opportunities

1. Tour Coordinator
2. Department Manager
3. Convention Coordinator

Places of Employment

1. Tour companies
2. Some hotels which provide their own tours

Current Salary

There is a wide variation in salary largely dependent on the size and extent of the company. Many companies pay a commission in addition to salary based on the number of people in the tour.

Employment Outlook

As the recreation industry increases this job will also expand. Hawaii will continue to be a number one vacation spot and people will need other people to show them around. Stable and growing employment outlook is foreseen.

Job Summary (Entry Level Position)

The tree trimmer helper assists in the trimming, pruning, removing, relocation and care of trees and shrubs; performs other related duties as required. For example, he may perform various unskilled and semi-skilled manual tasks, operate a power saw to cut large branches, serve as flagman, haul rubbish to dump sites, etc.

Qualifications

1. A combination of training and experience equivalent to completion of the eighth grade and one year of manual laboring experience
2. Possession of a valid motor vehicle operator's license
3. Knowledge of common hand tools and their uses; methods, procedures and materials used in general maintenance work; standard safety practices
4. Ability to learn to operate a variety of power tools and equipment used in trimming trees; climb trees and work at heights; follow instructions

Training Programs

1. Emphasis on use of tools and hands in high school
2. Community college programs in the building trades--see construction trades section.

Benefits

Dependent on where the individual is employed. Governmental agencies usually offer excellent medical and retirement benefits.

See State of Hawaii: Tree Trimmer Helper

Job Summary

The visitor information specialist supervises and directs the day-to-day operations of the State Visitor Information Program; conducts studies and makes recommendations for the development and revision of program plans, policies and procedures; assists in providing consultative services to officials of foreign countries in establishing or improving their visitor information program; coordinates and participates in training activities and protocol matters and performs other duties as required.

Qualifications

1. Knowledge of the general organization and purpose of the State Visitor Information program; report writing; public relations; principles and practices of supervision
2. Ability to plan, assign and review the work of others; secure, develop and organize information and materials and formulate and recommend standards and procedures; assess and evaluate program deficiencies and recommend improvements; prepare comprehensive written reports; establish and maintain effective working relationship with others; speak effectively before groups and individuals; interpret and explain the Visitor Information Program to others
3. Usually a four-year program at a university or its equivalent is required for this top level position.

Promotional Opportunities

1. Visitor Information Specialist IV
2. Visitor Information Specialist V
3. Visitor Information Specialist VI

Places of Employment

State Visitor Information Program at various locales throughout the State of Hawaii

Current Salary

$9,840/year

Employment Outlook

As more leisure time, more per capita income and more people come to the islands, the need for individuals with organizational skills and managerial techniques will increase.

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MANUFACTURING

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- Candy-Maker Helper
- Concrete-Fittings Man
- Cottage-Cheese Maker
- Cylinder Tester
- Dairy Processing Equipment Operator
- Equipment Installer
- Fabricator: Concrete/Cement Products
- Food Processor
- Frameman
- Freezer Helper
- Furnace Operator
- Gas-Transfer Operator
- Helper
- Helper: Apprentice Qualified
- Installer-Repairman
- Journeyman Metal Fabricator
- Laborer: Cement & Concrete Products
- Lineman
- Machine Operator
- Machine Operator: General
- Machine Set-Up Man
- Metal Fabricator
- Miller
- Offset Pressman I/Apprentice Pressman
- Packager
- Photoengraver
- Plastics Fabricator
- Powderman
- Sawyer
- Seamstress
- Sirup Maker
- Smoker
- Stayer Operator
- Switchboard Operator
- Warehouseman
- Woodworking-Machine Operator

MANUFACTURING

ACETYLENE-PLANT OPERATOR
(D.O.T. 549.885)

Job Summary

The Acetylene-Plant Operator tends generating equipment that processes calcium carbide crystals and water into acetylene gas; turns valves, level gauge, and thermostat to raise and heat water to prescribed level and temperature in generator; dumps specified quantity of crystals into hopper, bolts on cover, starts generator; opens hopper gate and sifts crystals into generator; records amount of time consumed and cylinder shipping data; may tend compressor; may ascertain level of acidity and alkalinity of gas; may test filled cylinders for leads; may fill cylinders with compressed gas.

Qualifications

1. Experience and training as Acetylene-Plant Operator either as a Trainee or on-the-job.
2. Mechanical aptitude
3. Ability to learn safety precautions while working with acetylene
4. Ability to learn procedures for producing and handling compresses gases
5. May be required to meet minimum physical requirements

Promotional Opportunities

Entry to the position of Acetylene-Plant Operator is usually made after completion of a trainee period on-the-job. Progress is usually to the position of Working Foreman and/or Foreman.

Current Wages

Trainee: $2.70 - $3.00+/hr.
Operator: $3.20+/hr.
Working Foreman: $3.33+/hr.

Places of Employment

Manufacturers of Industrial Gases

Employment Outlook

Although occupations related to the manufacturing of industrial gases is expected to rise and keep pace with any economic growth in the future, any expansion locally should be slowed by the ability of local manufacturers to handle adequately Statewide needs for industrial gases.

Job Summary

Under the supervision of the first line supervisor, the Apparatus Repairman repairs, inspects, tests, cleans, polishes, and reconditions standard types of telephone instruments and apparatus, using prints, hand and power tools, and testing equipment. He repairs such miscellaneous items as switchboard cords, operator's headsets and distributing frame terminal blocks, straps terminal fuses and assembles protector units. The Apparatus Repairman performs other related duties as required. He does indoor benchwork in a shop under usually unpleasant conditions: cleaning insect-ridden equipment, painting, using cleaning solvents, working amid considerable noise and dust.

Qualifications

1. No required, desirable or legal requirements/experience
2. Color blindness not acceptable (works with color coded wires)
3. Hearing aids not acceptable (uses audio test equipment)
4. Pass basic qualification tests

Current Wage

Start: $3.05/hr.
Range: $4.00/hr.

Place of Employment

Hawaiian Telephone Company

Promotional Opportunities

The Apparatus Repairman is eligible for any openings in the company for which he is qualified; he competes with others within the company who are equally qualified. He may progress within the company as follows:*
Station Installer, Station Repairman, Equipment Repairman, PBX Repairman/Installer, Switchman, Plant Facility Man, Testdeskman, Leaderman.

*This is a list of positions for which he may be eligible with time and experience and is not intended as a career ladder progression or as a limit to possible opportunities.

BATCH PLANT OPERATOR
(D.O.T. 869.885)

Job Summary

The Batch-Plant Operator operates portable or permanent concrete batching plants in a gravel pit; material supplier's yard, or at a construction project, to weigh out and mix specified quantities of concrete aggregate, cement, and water; starts power unit and pulls levers or presses buttons to admit sand, stone, and cement into weighing bins and mixing drum from storage hopper; observes indicators on scales to determine when specified amounts of aggregate have been weighed; opens valve to allow water to flow into drum and starts drum rotating; opens gate to discharge concrete into buckets onto conveyor or into trucks; may operate batch plant from central control board.

Qualifications

1. Training and experience: experience required in lower level jobs such as Helper, Laborer, and Trainee; required to learn the job through on-the-job training
2. Ability to learn safe and efficient operation of the specific machinery operated
3. Mechanical ability and ability to learn maintenance of the machines worked
4. Ability to follow oral or written instructions

Promotional Opportunities

Training in this occupation may qualify for training in operating other types of machinery at this level of skill and experience. Other opportunities may be as follows:
- Machine Operator (various)
- Specialty Worker
- Leadman

Current Wages

$4.85 - $5.00/hr.

Places of Employment

Manufacturers of:
- Cement and Cement Products
- Ready-Mix Concrete

Construction Projects

BOOKBINDER
(D.O.T. 977.884)

Job Summary

The Bookbinder binds covers to books or pamphlets, and performs book finishing operations; compresses sewed-together signature of book bodies to uniform thickness using smashing machine; applies glue to back of sewed signatures to stiffen back of book body; trims book body to size using powered cutting machine; inserts into machine that rounds, backs, and forms grooves at back edge in which covers are hinged; stacks and aligns books after rounding and backing operation and glues lining on each book; fabricates cover for book; glues cover to endsheets and places in press to dry; finishes book by embossing lettering or designs on cover using heated handtools; may impress cover with lettering or designs in gold, using gold-stamping machine; may rebind damaged or worn books; may perform binding work by hand.

Qualifications

1. Training and experience: graduation from high school; any work involving a high degree of mechanical ability may be required.
2. Ability to learn related processes and work with machinery and various handtools
3. May vary according to employer

Current Wages	Places of Employment
60% - 100% of Journeyman Wages while serving as an Apprentice	Printing Houses
$2.70 - $4.50/hr.	State of Hawaii
	Private Binderies

Promotional Opportunities

An Apprentice usually serves a period of from three to four years learning the trade under supervised help and direction. As a Journeyman the Binder will be qualified to handle various types of binding jobs. Progress is usually to a Leadman position. A Binder may also go into business on a self-employed basis where demand is great enough to support his craft.

Employment Outlook

Employment in this area should maintain the status quo despite expanding community needs. Local supply at present should be sufficient to meet the needs of the State.

See also Bindery Worker, Communications

BUNKERMAN
(D.O.T. 922.887)

Job Summary

The Bunkerman performs a variety of tasks; moves materials such as lime, sand, stone, etc., from trucks or storage areas to plant bunkers or bins; shovels materials into bunkers as required; may clean plant yard and storage sheds, using rake, shovel, and broom; may maintain roadway for trucks; may shovel aggregate onto loading conveyors; performs duties as required.

Qualifications

1. Training and experience: may require experience as a laborer or helper in this area of work; eighth grade education may be required
2. Ability to follow oral or written instructions
3. Ability to understand English
4. Ability to do strenuous physical labor

Opportunities

In some employment areas, this may be an entry level position although this is not usually the case. With training and on-the-job experience, the employee could progress to the following:

- Machine Operator Trainee
- Machine Operator
- Truck Driver (Off Highway)
- Trades Helper
- Equipment Operator

Current Wages

$4.25/hr.

Places of Employment

Manufacturers of:
- Hydraulic Cement
- Concrete Block and Brick
- Other Concrete Products
- Ready-Mix Concrete

BUTCHER: JOURNEYMAN
(D.O.T. 525.381)

Job Summary

The Journeyman Butcher performs slaughtering and meat packing operations in a slaughtering and meatpacking establishment, using cutting tools such as cleavers, knives and saws; stuns animals prior to slaughtering and skinning; severs jugular vein to drain blood and facilitate slaughtering; trims head meat and otherwise severs or removes parts of animal heads or skulls; saws, splits or scribes slaughtered animals to reduce carcass; slits open, eviscerates, and trims out carcasses; cuts out, trims skins, sorts, and washes viscera of slaughtered animal to separate edible portions from offal; washes carcasses; wraps dressed carcasses to enhance appearance and protect meat; shaves hog carcasses; trims and cleans hides using knife; cuts bones from standard cuts of meat such as chucks, hams, loins, plates, rounds, and shanks to prepare them for marketing; examines, weighs, and sorts fresh pork cuts; skins sections of animals or whole animals; may prepare meats for smoking; may cut and wrap meat; may trim, clean and salt hides.

Qualifications

1. Training and experience: two years' training as an Apprentice Butcher learning the trade
2. May be required to meet health standards established by the employer of the State

Current Wages/Salary	Places of Employment
$530 - $680/mo.	Meatcutters
$3.40/hr.	Slaughter Houses
Helper/Apprentice Classes:	Super Markets
$2.50 - $3.25/hr.	Sausage/Wholesale Cuts Meat Producers

Promotional Opportunities

The Journeyman Butcher may also work in any of the following capacities:

- Animal Stunner
- Animal Sticker
- Head Trimmer
- Carcass Splitter
- Carcass Washer
- Hide Trimmer
- Meat Boner
- Meat Grader
- Skinner
- Smoked Meat Preparer
- Meat Butcher (Prepared Foods)

The journeyman butcher may progress to the following positions in the career areas:

- Head Butcher
- Head Meatcutter

Employment Outlook

Employment in this area should remain steady and may expand to meet the needs of an expanding community and population which maintains meat as one of its primary food sources. This should coincide with expanding cattle ranching outlooks.

CABLE SPLICER
(D.O.T. 829.381)

Job Summary

Under the direction of a first line supervisor, the Cable Splicer discusses with supervisor work assignments and job problems and determines special equipment or materials required for the job; from plans prepared by plant engineers, splicers for the job; from plans prepared by plant engineers, splices insulated copper wires to preserve the continuity and insulation of each conductor; working with underground, aerial or buried cable, splices wires at junction of the two cables, insulates splices, and covers splices with lead sleeve to protect from moisture by fusing metals together with molten lead; mechanical closures such as splice cases; locates and clears trouble found in cable using various standard testing equipment; transfers circuits from old to new sections of cable using standard test equipment being careful not to interfere with conversations; climbs poles and ladders; works in manholes and on suspended aerial platforms; drives vehicles; prepares reports; performs other related craft work as required.

Qualifications

1. Desirable experience in use of cable testing equipment
2. Must pass color blindness test (works with color coded wires)
3. Male
4. 18 years of age
5. Possession of valid driver's license
6. Must pass certain physical examination requirements established by Public Utilities Commission
7. Must pass minimum qualifying tests

Current Wages

Start: $3.39/hr.
Range: $5.04/hr.

Place of Employment

Hawaii Telephone Company

Promotional Opportunities

The Cable Splicer is eligible for any openings within the company for which his experience qualified him; he competes with others equally qualified. He may progress as follows:*

Station Installer
Equipment Repairman
PBX Repairman
PBX Installer

Plant Facility Man
Plant Switchman
Leaderman

*This is a list of positions for which he may be eligible with time and experience and not intended as a career ladder progression.

CANDY-MAKER HELPER
(D.O.T. 520,885)

Job Summary

The Candy-Maker Helper tends candy making machines that mix candy ingredients. He weighs, measures, mixes, and dumps specified ingredients into cooker or kettle to pour cooked candy onto tables or into beaters; may perform tasks of candy maker as instructed, such as forming soft candies by spreading candy onto cooling and warming slabs, cutting by hand or with machine knife, by casting in rubber molds, or by operating a machines that extrudes candy; may form hard candies by hand or machine-pulling or by spinning; washes kettle, cookers, machines, and equipment after each batch; performs duties as required.

Qualifications

1. Training and experience: may vary among employers; where no previous experience is required, training is on the job; where experience is required, the applicant may have been required to serve in the capacity of a General Worker or Helper.
2. Ability to follow oral or written instructions
3. Ability to meet health standards of the employer or the State
4. Some mechanical ability may be required to operate any machinery used in the candy-making process.

Current Wages

$1.60/hr. State Minimum
$2.50/hr. Average Wage

Promotional Opportunities

Training as a Candy-Maker Helper may provide experience to qualify a person for some of the following types of work and higher level jobs:

- Assistant Cook
- Assistant By-Products Cook
- Candy Maker
- Cook
- Chief Cook/Candy-Maker

Places of Employment

Bakeries
Manufacturers of Candies and other Confections

Employment Outlook

There is no expectation at the present time for opportunities in this type of work to increase. Some of the employment for Candy-Makers also varies with the season, as the macadamia nut candy making, or with special seasons, such as Christmas.

MANUFACTURING

CONCRETE-FITTINGS MAN
(D.O.T. 779.884)

Job Summary

The Concrete-Fittings Man makes odd-shaped fittings for concrete pipe by casting concrete or cementing pipe sections, performing any combination of the following duties: casts elbows, lids, or traps by tamping concrete into steel molds and smoothing edges with a trowel; places shapes on pallets or shelves to harden, or on hardened sections to which they adhere, completing assembly; waterproofs hardened molds by dipping them in liquid cement; divides pipe sections with saw, trowel, or hammer, and shapes Y-or T-shapes, sealing joints inside and outside with grout (fluid cement); transfers finished fittings to yard on hand truck; cleans and oils molds; may write work reports and keep time record.

Qualifications

1. Training and experience: Experience required in lower level positions such as Helper, Laborer, or Trainee; skills for this occupation are usually learned through on-the-job training.
2. Ability to use handtools required for use in this occupation
3. Ability to follow oral or written instructions, specifications, drawings, or samples
4. Ability to do strenuous physical work

Promotional Opportunities

Training in this occupation may qualify one for training and experience required for other jobs at the same or higher levels. The Concrete-Fittings Man may be qualified to work at or progress to any of the following positions:

- Fabricator and Assembler
- Pipe Repairman
- Trades Helper
- Machine Operator
- Lay Out Man

Current Wages

Start: $4.05/hr.
Range: $4.50/hr.

Places of Employment

Manufacturers of:

- Structural Clay Products
- Concrete Pipe
- Concrete Products

MANUFACTURING

COTTAGE-CHEESE MAKER
(D.O.T. 522.782)

Job Summary

The Cottage-Cheese Maker controls equipment to make cottage cheese from milk; washes cheese vats and tools with sterilizing solution and rinse water; measures and controls ingredients of milk and culture into vat; operates valves and observes thermometer and clock to control incubation of culture; operates agitator to stir ingredients; samples and tests whey for acidity and cuts curd to allow seepage of whey; adjusts steam and water valves to regulate cooking temperature; determines when curd is sufficiently cooked; washes curd and removes whey; makes various blends and cottage cheeses; records process.

Qualifications

1. Training and experience: most training received on-the-job; usually enters at a lower level and receives a variety of experiences within the company prior to gaining entry at this level
2. May be required to meet health and physical condition standards deemed necessary and proper for the job
3. Ability to learn the procedure for processing cottage cheese

Promotional Opportunities

The applicant usually starts as an unclassified laborer and works up through any of a number of intermediate positions such as: Utility Man, Loader and Checker, Ice Box Man, Cottage Cheese Packager, etc. The career progression could lead to the position of Working Foreman.

Current Wages

$4.88/hr.

Places of Employment

Dairy Products Processors

Meadow Gold Dairies

MANUFACTURING

CYLINDER TESTER
(D.O.T. 953.387)

Job Summary

The Cylinder Tester inspects gas cylinder for surface defects and tests elasticity of cylinder walls; removes valves from cylinder; inspects exterior and interior for presence of dirt, rust scales, dents, and burns; segregates cylinders exceeding prescribed expansion limits; stamps test data and company symbol on cylinder; records test results, cylinder seal number, and test date; may weigh cylinder.

Qualifications

1. Training and experience usually received on-the-job in lower level positions
2. Mechanical aptitude and ability to work with hand tools
3. May be required to meet minimum physical standards

Promotional Opportunities

After training in lower level Trainee or Helper positions, the applicant may progress to the position of Cylinder Tester. Other career opportunities may be as follows:

- Fire Extinguisher Serviceman
- Cylinder Service Foreman
- Medical Gas Transfer Operator
- Lab Technician

Current Wages

$3.20/hr.

Places of Employment

Manufacturers of Industrial Gases
Gas Company

MANUFACTURING

DAIRY PROCESSING EQUIPMENT OPERATOR
(D.O.T. 529.782)

Job Summary

The Dairy Processing Equipment Operator sets up and operates continuous flow or vat-type equipment to process milk, cream, and other dairy products, following specific methods and formulas; assembles fittings, connects pipes to prepare for operation; turns valves and controls flow of sterilizing solutions and rinse water through pipes and vats; operates pumps and equipment, observes temperature and pressure gauges; controls valves to regulate steam and water in pasteurizing process; regulates refrigerant flow to cool milk pumps or pours specified amounts of liquid or powder ingredients into vat to make dairy products; tests products at various stages of processing; keeps records of various observations.

Qualifications

1. Training and experience: usually enters career progression at a lower level and receives on-the-job training which leads to this specific occupation
2. May be required to meet health and physical condition standards deemed necessary and proper for the job by the employer and/or the State
3. Ability to learn the necessary procedures for processing various dairy products; follow written or oral instructions

Promotional Opportunities

The applicant usually starts as an unclassified laborer and works up through any number of intermediate positions such as Utility Man, Loader and Checker, Ice Box Man, Process Man, etc.

The career progression could lead to the position of working foreman.

Places of Employment

Dairy Products Processors
Meadow Gold Dairies

Current Wages

$4.88/hr.

MANUFACTURING

EQUIPMENT INSTALLER
(D.O.T. 829.381)

Job Summary

Under the direction of a Leaderman Equipment Installer, the Equipment Installer installs cable; adjusts and tests manual and automatic telephone and radio equipment according to plans and specifications prepared by equipment engineers; installs telephone central office equipment for manual and dial exchanges; places manual switchboards; wires distributing frames, relay racks, power equipment, and dial switching equipment in locations designated on prepared plans; installs central office cables and interconnecting units of equipment; adjusts relays and other electrical equipment for maximum operation efficiency; performs other related craft work as required; uses explosive actuated tools and other hand tools.

Qualifications

1. Desirable experience: good manual dexterity, knowledge of basic electricity, familiarity with telephone technical terminology, experience in switchroom training or technical equivalent
2. Must have unrestricted State motor vehicle operator's license
3. Must pass the following physical requirements: male, back X-ray examination, color blindness test
4. Must be able to pass minimum qualifying tests

Current Wages

Start: $3.39/hr.
Range: $5.04/hr.

Place of Employment

Hawaiian Telephone Company

Promotional Opportunities

The Equipment Installer is eligible for any openings within the company for which his experience qualifies him. He competes with any other individual within the company who is equally qualified. He may progress as follows:*

- Plant Switchman
- Plant Facility Man
- PBX Installer
- PBX Repairman
- Equipment Repairman
- Leaderman Equipment Installer

*This is a list of jobs for which he may be eligible and not a career ladder progression.

Job Summary

The Fabricator casts a mixture of concrete and aggregate in a mold to form plain or decorative structural panels following drawings, specifications, and approved samples; fits wooden mold together and brushes oil solution on inside of mold to prevent concrete from adhering to mold and to retard setting of concrete; shovels and spreads mixed concrete and aggregate into mold and tamps with pneumatic vibrator to distribute facing evenly and to form facing of required thickness; positions and fastens reinforcing materials in mold by hand, following specifications, using rule, gauges, wrenches, and wood clamps; positions hopper over mold and fills mold with backing mixture; puddles and levels off casting; smoothes surface with trowel; unbolts wood clamps, removes mold; hoists casting with overhead crane and sets on skids; transfers casting to storage area using hydraulic lift truck; cleans molds prior to new castings.

Qualifications

1. Training and experience: experience required in lower level positions such as Helper, Laborer, or Trainees; skills are usually learned through on-the-job training.
2. Ability to use handtools required for use in this occupation
3. Ability to follow oral or written instructions, specifications, drawings, and samples

Current Wages

Start: $4.05/hr.
Range: $4.50/hr.

Places of Employment

Manufacturers of:
 Structural Clay Products
 Concrete Block and Brick
 Concrete Products

Promotional Opportunities

Training in this occupation may qualify one for training and experience required for other jobs at the same or higher levels. The fabricator may be qualified to work at or progress to any of the following positions:

Promotional Opportunities (con't)

Plant and Yard Worker
Trades Helper
Machine Operator
Specialty Worker
Leaderman

Job Summary

A Food Processor assists in the operation of and sometimes supervises in a food processing plant. The food processor operates washing, peeling, heating and packaging machines; operates complex equipment such as steam blancher, nut crackers, drum dryer, hydraulic presses, or other types of processing machinery as directed. In some places the food processor may be involved in the cleaning and caring of processing equipment. At the lower levels, work assignments involve the operation under supervision of specific food processing machines to produce designated products through such methods as freezing, canning, dehydration and pickling. Sequences of operations, arrangement of equipment and methods applied are prescribed by senior processors or other supervisory personnel.

Qualifications

1. Training and experience: may vary according to the employer; eighth grade to high school education at the entry level, with on-the-job training provided.
2. Knowledge: may vary according to the employer; knowledge of equipment, common hand tools, general food sanitation practices
3. Ability to operate mechanical equipment; learn food processing techniques; understand and follow oral and written instructions
4. May be required to meet minimum physical and health requirements (such as a TB test) in order to qualify for employment

Current Salary

Starting: $595/mo.
Range: $725/mo.

Promotional Opportunities

The food processor may progress from the entry level to higher levels of supervisory work according to ability and ambition, and time spent working under seniority-type plans

Places of Employment

Manufacturers of processed food products such as:
Nuts, Preserved Fruits, Frozen Juices, Meat Processors, etc.

Employment Outlook

Manufacturing may be expected to continue to increase along with the State population growth and the effect to produce more local goods for exchange.

MANUFACTURING

FRAMEMAN
(D.O.T. 822.884)

Job Summary

Under the general supervision of the Supervising Switchman, the Frameman carries out and performs all main, line intermediate distributing, and combination distributing frame activities as required. He performs work required by the testcenter forces, such as opening cable pairs, rack shoe test, placing of short on cable pair for testing purposes, and traces jumpers. He may assist one-man cable-splicing crews in tagging of cable pairs. Performs maintenance routines as required.

Work is carried out mostly in air conditioned office spaces.

Qualifications

1. Male; minimum age 18 years
2. Must pass color blindness test to work with coded wires
3. Full hearing ability: no aids allowed
4. Must pass back X-ray examination
5. Unrestricted State vehicle operaotr's license
6. Must qualify on minimum entrance tests
7. No required or desirable experience

Current Wages

Start: $3.05/hr.
Range: $3.86/hr.

Place of Employment

Hawaiian Telephone Company

Promotional Opportunities

The Frameman is eligible for any openings within the company for which his experience may qualify him; he competes with others in the company who are equally eligible. He may progress within the company as follows:*
Switchman, Installer-Repairman, Equipment Repairman, PBX Repairman, PBX Installer, Plant Facility Man, Testdeskman, Leaderman.

*This is a list of positions for which he may be eligible with time and experience and is not intended as a career ladder progression.

MANUFACTURING

FREEZER HELPER
(D.O.T. 529.885)

Job Summary

The Freezer Helper assists in the freezing and packaging of ice cream, performing any of a number of tasks; measures specified amounts and kinds of ingredients, such as ice cream mix, flavor and color; dumps ingredients into flavor-mix tanks to maintain continuous flow to mix into freezer; may mix ingredients for frozen ice confections; and performs other duties as required.

Qualifications

1. Training and experience: usually enters at a lower level as unclassified labor and gets on-the-job training to qualify for this position
2. May be required to meet health and physical conditions deemed necessary by the employer and/or the State
3. Ability to learn the necessary procedures for the measuring and mixing of ingredients for frozen dairy products; ability to follow written and oral instructions

Promotional Opportunities

The applicant usually starts as an unclassified laborer and recieves training on the job for this occupation. Progression along this career line could lead to the following:

- Head Novelty Man
- Sr. Freezer Operator
- Sr. Mix Operator
- Working Foreman

Current Wages

$4.70/hr.

Places of Employment

Dairy Products Processors
Meadow Gold Dairies

Employment Outlook

Employment in this area should be steady and rise to meet the needs of an expanding community and any increases in growth of population. Dairy products remain one of the prime food sources and should keep pace with future demands.

FURNACE OPERATOR
(D.O.T. 512.782)

Job Summary

The Furnace Operator controls and operates various types of furnaces to melt metal prior to casting; weighs out specified amounts of metal ingots and scrap metal and charges metal into the furnace by hand, using a hoist, or by directing the crane operator; loads molten metal into furnace, using transfer ladle; operates controls to heat furnace to specified temperature; observes color of metal and instruments and adjusts controls to maintain specified temperature; sprinkles fluxing agent over surface, forming layer of slag; skims off slag; removes crucible of molten metal from furnace; removes test sample of molten metal; records data from each melt; may transport crucible or ladle to pouring station and pour metal into molds; and repair furance.

Qualifications

1. Training and experience: Training at a lower level is usually supplied on the job and is a necessary requirement for entry into a higher level Operator's position.
2. Knowledge of various principles associated with the different steps or stages in the process of melting metal
3. Ability to work with different types of metal
4. Ability to follow oral or written instructions or specifications

Current Wages

Start: $3.20 (Entry Levels)
Range: $4.00+

Places of Employment

Iron and Steel Foundries
Manufacturers of Primary Steel Products

Opportunities

A person progressing in this area usually learns the required skills through on-the-job training. He may be trained to operate more than one type of furnace or be trained along well-defined lines leading to the operation of one type of furnace. Progress is usually to a Leadman or Foreman type position in which the Furance Operator supervises a number of lower level men who work to prepare the furnace, take molten samples, etc.

GAS-TRANSFER OPERATOR
(D.O.T. 914.885)

Job Summary

The Gas-Transfer Operator tends equipment to transfer liquid gases from processing equipment to tanks for storage; connects hose and operates pump until specified quantity of gas has been transferred, as indicated by gauge; insures that specified type of gas is pumped using portable analyzer; records type and quantity of gas pumped; may maintain pump and lines by replacing filters and gaskets, tightening connections, and adjusting pumps using handtools; may collect samples for laboratory analysis; may determine density of liquids; may take inventory of contents of storage tanks.

Qualifications

1. Experience and training as Gas-Transfer Operator usually in the Trainee position on-the-job.
2. Mechanical apititude
3. Ability to learn safety precautions and procedures for handling liquid gases
4. May be required to meet minimum physical requirements
5. Must be able to follow written or oral instructions

Promotional Opportunities

Entrance to the position of Gas-Transfer Operator is usually made after completion of an on-the-job Trainee period. With experience, the Gas-Transfer Operator would be able to transfer or progress to the following:

Manifold Operator
Medical Gas Transfer Operator
Cylinder Tester
Working Foreman

Current Wages

Trainee: $2.75/hr.
Operator: $3.00/hr.
Career Range: $3.50/hr.

Places of Employment

Manufacturers of Industrial Gases:
GASPRO Ltd.

HELPER
(D.O.T. 804.886)

Job Summary

The Helper assists workers engaged in fabrication of structural steel metal products by performing any combination of the following tasks: lift, position, and remove workpieces from machines to assist in fitting and welding; hold tape and rods and mark reference points to assist in layout; load, stack, and transport stock, tools, dies, and work in process by hand or truck; attach rope or grappling equipment to workpieces to prepare them for moving by crane or jib; clean and scrape metal preparatory to fabricating, welding, painting, or shipping; pick up and truck metal scrap from work areas; perform other duties as required.

Qualifications

1. Training and experience: prior experience not usually required at the entry level position; applicant may be required to have a high school education.
2. Ability to meet physical standards necessary to the requirements of the type of work involved, such as lifting heavy pieces
3. Mechanical ability; ability to use common handtools
4. Ability to follow oral or written instructions

Opportunities

This is usually the entry level position for work in the area of Fabricated Steel. Ability and experience usually lead to on-the-job training for a higher level position. From the Helper position a person might also move into one of several Apprentice programs.

Current Wages

Start: $2.30/hr.
Range: $3.00+/hr.

Places of Employment

Iron and Steel Foundries
Manufactures of Primary Metal Products
Fabricators of Structural Metal Products

Employment Outlook

Employment in this area is usually dependent upon the various growth rates of such other areas as construction, manufacturing, urban expansion, population growth, etc.

Employment Outlook con't

Any expansion in employment for this area is likely to be slow. Future growth is also liable to be limited by any limitations inherent to an island community.

Job Summary: Apprentice Program

This is the entry level for the Apprentice program presently in effect at Hawaiian Electric Company. The program of training is in conformance with State and Federal Laws. As a helper at the maximum level, the Apprentice commences to acquire training in a designated trade.

Generation Department:

1. Maintenance Division: helps mechanics, pipefitters, welders, insulators, machinists, electricians, etc., and their crews in their regularly assigned tasks; and thereby acquires training to qualify him in a trade.
2. Technical Division: helps automatic control mechanics or electrical instrument men and their crews in their regularly assigned tasks and thereby acquires training to qualify him in a trade.

   In addition: uses hand tools, block and tackle, etc.; does cleaning and painting; drives company vehicles, fork, trucks, etc.; starts to learn basic blueprint reading; performs similar and incidental duties as required.

Distribution Department:

1. Overhead Maintenance and Automotive Division: performs unskilled and semiskilled work under direct or indirect supervision; assists personnel of higher classification in the construction, installation, maintenance and operations of Company facilities in order to acquire necessary knowledge to qualify him in the trade. The Apprentice may drive a truck carrying men and/or materials and, if qualified, operate trucks or equipment of a higher classification; lifts and carries materials, tools and equipment; uses hand tools and power tools as required; after one year performs duties with a satisfactory rating in quality and quantity of work, job

knowledge, adaptability, attitude and safety, performs similar and incidental duties as required.

The Apprenticeship Course Outlines specify over 500 hours of classroom instruction and home study. The program takes three years to complete during which time the apprentice receives some 6000 hours of practical training in his selected trade.

Qualifications

1. No required experience
2. Desirable Experience: two years experience or equivalent training in mechical or electrical instrumentation for Technical Division, Generation Department; applicants for communications jobs in the System Operation Department should have some knowledge of elctronics.
3. High school graduate or equivalent; must have successfully completed courses in mathematics, English, and basic science
4. For Helper jobs in the Relay and Communication Division, System Operation Department, a passing grade in high school Algebra, Trigonometry and Physics is required.
5. Must successfully pass Company entrance qualification exams
6. Must have good moral character; for jobs requiring direct contact with customers, must in addition have neat appearance and generally acceptable personality (Meterman and Troubleman)
7. Must NOT have received any notices for violations of Company rules and policies
8. Must weigh within 10% of Metropolitan Life Insurance Company height and weight table; the minimum height for a Lineman is 5'8" without shoes.
9. Must possess a valid State motor vehicle operator's license
10. Military Service: completed or deferred (reserve obligation acceptable)
11. Must be able to pass:
    a. Company Driver's License test
    b. Company physical and special back X-ray
    c. Public Utilities Commission truck driver's physical

Promotional Opportunities

The Apprentice programs lead to the following Journeyman positions:

- Lineman
- Mechanic
- Electrical Mechanic
- Automotive Mechanic
- Electrician (Relayman)
- Troubleman
- Electrician (Communication)

With time and experience, the Journeyman could progress to the following positions:

- Group Leader
- Working Foreman
- Foreman

Current Wages

Starting: $3.68/hr.
Range: $4.15/hr.
Helper: Apprentice Qualified

Wage rates for Apprentices are based on percentages of the respective Journeyman rates:
69% First 1000 hours through 86% to 6000 hours

Places of Employment

The information and programs described herein are based upon the existing program of Apprenticeship for Hawaiian Electric Company, Inc.

Employment Outlook

Hiring for the Apprentice (helper) program is expected to continue as electrical facilities and services expand along with the State's growth in population and urban expansion.

INSTALLER-REPAIRMAN
(D.O.T. 822.281)

Job Summary

Under the direction of a first line supervisor, the Installer-Repairman installs, rearranges, reconnects, disconnects, and removes station and associated equipment in accordance with service orders and standard installation and safety precautions. He determines, locates, and clears trouble conditions on outside telephone equipment which includes station apparatus and associated subscriber equipment as well as minor central office troubles at unattended exchanges. He performs preventive maintenance work such as replacing deteriorated drop and inside wire clearing branches from drop wire in the performance of his job; climbs poles and ladders, drives vehicles, and prepares work reports and inspection sheets as required.

Work is 50% indoors and 50% outdoors, usually in unpleasant conditions such as bad weather, confined spaces, dust, noise, dirt, poor lighting and ventilation; one is susceptible to animal or insect bites, chemical irritations, falling off poles or ladders, and dealing with irate subscribers.

Qualifications

1. Required to have at least six months' experience in one or a combination of the following jobs: Lineman, Frameman, Apparatus Repairman, Apparatus Technician, Station Installer, Station Repairman or Cable Splicer
2. Color blindness not acceptable; works with color coded cable
3. Hearing aides not acceptable; makes audio tests
4. Possession of valid State vehicle operator's license
5. Must pass qualification tests

Current Wages

Start: $3.38/hr.
Range: $4.94/hr.

Place of Employment

Hawaiian Telephone Co.

Promotional Opportunities

The Installer-Repairman is eligible for any openings within the company for which his experience qualifies him; he competes with others in the company who are equally eligible. He may progress within the company as follows:*

Switchman
Equipment Repairman
PBX Repairman
PBX Installer
Plant Facility Man
Testdeskman
Leaderman

*This is a list of positions for which he may be eligible with time and experience and is not intended as a career ladder progression or as a limit of possible positions.

JOURNEYMAN METAL FABRICATOR
(D.O.T. 619.380)

Job Summary

The Journeyman Metal Fabricator fabricates and assembles structural metal products, such as frameworks or shells for machinery, ovens, tanks, stacks, and metal parts for buildings and other types of metal structures according to job order or blueprints; develops layout and plans sequence of operations; applies knowledge of trigonometry, stock allowances for thickness, machine and welding shrinkage, and physical properties of metal; locates and marks bending and cutting lines onto workpiece; sets up and operates fabricating machines, such as brakes, rolls, shears, flame cutters, and drill presses; hammers, chips, and grinds workpieces to cut, bend, and straighten metal; preheats workpieces, using handtorch or furnace; positions, aligns, fits, and welds together parts; designs and constructs templates and fixtures; may fabricate and assemble sheet metal products; may set up and operate machine tools associated with fabricating shops, such as radial drill press, end mill, and edge planer.

Qualifications

1. Training and experience: Two to five years of apprentice training may be required.
2. Ability to follow oral and written instruction, specifications, lay-outs, etc.
3. Ability to meet any health and physical condition standards deemed necessary to fit the requirements of the position

Opportunities

After working up to this level of experience in the metal working and fabrication industry, progress is usually limited to the positions of Leadman and/or Working Foreman, and Foreman.

Current Wages

Start: $3.50/hr.
Range: $4.00/hr.

Places of Employment

Iron and Steel Foundries
Fabricators of Structural Metal Products
Fabricators of Wire

Job Summary

A Laborer performs any number and combinations of duties involved in preparing forms and pouring concrete; cleans forms using hammer, scraper, brush, and sprays form with oil to prevent adhesion; places reinforcing steel cages in form using power winch when preparing prestressed concrete; assists in pouring operations; removes forms; loads bricks; tiles, and pipes on pallets and transports to machines, disposal or storage areas; carries bricks to kilns; pushes empty cars to work areas; performs duties as required.

Qualifications

1. No training or experience is required beyond an eighth grade education
2. Ability to follow oral direction and instruction
3. Ability to understand English
4. Ability to do strenuous physical labor

Opportunities

This is usually the entry level position for occupations within this specific area. With training on-the-job and experience, the employee could progress to any of the following:

Utilityman
Maintenance Helper
Operator Trainee
Trades Helper

Most of the above mentioned positions lead to Journeyman-type skilled occupations

Current Wages

$1.65/hr State Minimum
$3.00-$4.00+/hr.

Places of Employment

Manufacturers of:

Hydraulic Cement
Structural Clay Products
Concrete Block and Brick
Concrete Products
Ready-Mix Concrete
Cut Stone

Employment Outlook

Expanding employment in this area should coincide with any rise in the rate of construction. Although adversely affected by both the slowdown in building and the long shipping strikes, manufacturing and employment in the production of concrete and concrete products may be expected to rise.

LINEMAN
(D.O.T. 822.381)

Job Summary

Under the direction of a Leaderman Lineman or Construction Foreman, the Lineman installs, rearranges, removes and repairs outside plant equipment such as poles, crossarms, cable messenger open wire, guys, anchors, underground conduits, drop wire and terminals in connection with the construction of new outside plant facilities, or the rearranging, removing and extending of existing facilities; repairs equipment damaged by storms or automobile. To accomplish assigned work, he works with various hand tools, climbs poles and ladders, works in manholes and on aerial wire messenger, digs holes for poles and anchors and digs trenches for conduits; selects, loads and unloads material and equipment used on the job; prepares inspection sheets and other forms when assigned to reconcentration work.

Work is 90% outdoor, usually under unpleasant conditions.

Qualifications

1. Male; minimum age 18 years
2. Minimum height 5'6"; minimum weight 150 pounds
3. Must pass back X-ray examination
4. Possession of valid State operator's license
5. Must pass physical requirements established by the Public Utilities Commission
6. Must pass minimum qualifying tests

Current Wages	Place of Employment
Start: $3.38/hr.	Hawaiian Telephone Co.
Range: $4.83/hr.	

Promotional Opportunities

The Lineman is eligible for any openings within the company for which his experience may qualify him; he competes with others in the company who are equally eligible. He may progress within the company as follows:*

Installer-Repairman
Equipment Repairman
Switchman
Station Installer
Station Repairman
PBX Repairman/Installer
Plant Facility Man
Testdeskman
Leaderman

*This is a list of positions for which he may be eligible with time and experience and is not intended as a career ladder progression or as a limit of possible positions.

MACHINE OPERATOR
(D.O.T. 616.380)

Job Summary

The Machine Operator sets up and operates metal fabricating machines such as brakes, rolls, shears, saws, and heavy-duty presses, to cut, bend, straighten, and form metal plates, sheets, and structural shapes as specified by blueprints, layout, and templates; selects, positions, and clamps dies, blades, cutters, and fixtures into machine, using rule, square, shims, template, built-in gauges, and handtools; positions and clamps stops, guides, and truntables; turns handwheels to set pressure and depth of ram stroke, adjustment rolls, cutting lines and reference points onto workpiece, using rule, compass, straighedge of by tracing from template; positions workpiece manually or by hoist against stops, and guides or aligns layout marks with dies for multiple or successive passes; inspects work; may operate other machines; may preheat metal using hand torch or furnace.

Qualifications

1. Training and experience: Training at a lower level is usually supplied on the job and is a necessary requisite for entry into any skilled machine operator position.
2. Ability to operate a specific or several types of machinery safely, properly, and efficiently
3. May be required to be able to perform maintenance on a certain machine or various machines being operated
4. Ability to follow oral or written instruction with regard to operation of machinery and nature of the type of work performed

Current Wage

Start: $2.70/hr.
Range: $3.50-$4.00/hr.

Places of Employment

Iron and Steel Foundries
Manufacturers of Primary Steel Products
Fabricators of Structural Metal Products
Fabricators of various types of metal products

Opportunities

A person progressing in this area usually begins at the lowest level of entry, such as Laborer or Helper, and works into a Trainee position during which time he may learn the operation of several different types of machines. He may be qualified to operate machines requiring progressively greater skill, such as different types of cranes. Promotion is usually along well-defined lines. Openings may be limited at the higher levels of skill, such as Crane Operator, where turnover is slow.

MACHINE OPERATOR: GENERAL
(D.O.T. 649.885, 619.885)

Job Summary

The General Machine Operator tends fabricating machines such as balers, slitters, taperers, corrugators, gluers, laminators, presses, cutters, scorers, etc.; sets stops, guides, positioners to specifications as indicated by scales, rules, or templates; positions workpiece by hand or hoist against stops or aligns layout marks with die or blade; activates machine; measures work using scale, rule, or template; performs touch-up work; removes defects; maintains machinery in good working order; may perform other shop tasks as directed; may assist other machine operators in setting up machinery, stacking, marking, packing, transporting, storing; may also tend other machines.

Qualifications

1. Training and experience may be required or applicant may receive on-the-job training while serving as a Plant Worker or in a Helper position.
2. Ability to work with hand tools
3. Mechanical ability
4. May be required to meet minimum physical standards

Current Wages

$2.60 - $3.60+/hr.

Places of Employment

Paper and Paper Products Manufacturers
Manufacturers of Paperboard Containers

Employment Outlook

The production of paper and paper products of various sorts is expected to increase to meet the needs of an expanding population and business community. Greater use of paper products is also expected to stimulate paper production and employment in the industry.

Promotional Opportunities

The General Machine Operator may be trained while working in the Helper or Plant Worker levels for any or all of the following positions:

Baler Operator
Equalok Operator
Slitter Operator
Compression Strapper Operator
Auto Taper Operator
Rite Size Operator
Corrugator Operator
Angle Gluer Operator
Laminator Operator
Stayer Operator
Scorer Operator
Machine Set-Up Man

MANUFACTURING

MACHINE SET-UP MAN
(D.O.T. 649.780)

Job Summary

The Machine Set-up Man sets up and adjusts machines that convert, saw, corrugate, band, wrap, box, stitch, form, or seal paper or paperboard products, such as toilet tissue, towels, napkins, bags, envelopes, tubing, cartons, wax rolls, and containers, according to specifications by any combination of the following tasks: adjusts rolls, guides, and chutes to accomodate type of paper or paperboard fed from parent stock or rolls; measures spaces and sets saw blades, cutters, and perforators, according to product specifications, using rule, thumbscrews, and wrenches; installs printing attachments and makes adjustments to clarity of print; installs or resets cutting dies according to work orders; operates machine for test run; observes functioning of machine parts; repairs or replaces defective parts.

Qualifications

1. Training and experience may be required or training may be received on the job in an Apprenticeship program.
2. Ability to work with hand tools; mechanical ability in general

Current Wages

$2.70 - $3.20/hr. Depending on the employer or the Union agreement in effect

Places of Employment

Paper and Paper Products Manufacturers
Sanitary Paper Producers
Manufacturers of Paper board containers and Boxes

Promotional Opportunities

The applicant usually starts at a lower level of entry, such as Plant Worker, or serves an Apprenticeship period prior to serving as a Machine Set-Up Man. The Machine Set-Up Man may also fill the following positions: Bag-Machine Set-Up Man, Gluing Machine Adjuster, Stitcher Set-Up Man. Depending on his level of experience, the Machine Set-Up Man may progress to various Operator positions or move into a supervisory position.

MANUFACTURING

METAL FABRICATOR
(D.O.T. 616.380)

Job Summary

Under the direction of a supervisor, through written or verbal orders, the Metal Fabricator performs all types of metal fabricating and machine shop work. He operates power and hand tools such as boring and cutting machines, shapers, grinding tools, metal forming tools, gas and electric welding equipment and soldering tools. He cuts metal and shapes it into desired forms to fabricate the product desired; works from engineered specifications, prints and sketches; also assists in modifying and designing equipment for special jobs; repairs broken tools and equipment, fabricates relay racks, switches mounting metal brackets, terminal boxes, runways and pans and metal cabinets in accordance with job requirements. Makes other miscellaneous repairs and performs other related work as directed.

The Metal Fabricator works with heavy machinery, is exposed to dust and noise, is subject to hazards of moving machinery, is exposed to gas fumes, burns and hazards of working with sharp metals. He works indoors and outdoors.

Qualifications

1. Must be able to pass back X-ray examination
2. Male
3. Unrestricted State motor vehicle operator's license
4. Required experience: two years of vocational training or one year's experience in any one of the following jobs: Machinist, Welder, Mechanic, Sheet Metal Worker
5. Must be able to pass minimum qualifying tests of various sorts

Current Wages

Start: $3.39/hr.
Range: $5.04/hr.

Places of Employment

Hawaiian Telephone Company
Sheet Metal Fabricators, Manufacturers, etc.

Promotional Opportunities

The Metal Fabricator is eligible for any openings within the telephone company for which his experience qualifies him. He competes with any other individual equally qualified.

MANUFACTURING

MILLER
(D.O.T. 570.885)

Job Summary

The Miller tends machines that mix, grind, or pulverize materials used in making cement, such as coal, stone, shale, clay shells, gypsum, and cement clinker; starts mills and conveyors; observes conveyor system to insure continuous flow of material; stops conveyor to remove clogged materials; opens chute over conveyor to add materials such as iron, silica or gypsum, according to specifications; observes operation of auxiliary equipment such as cement pumps, air or screen separators, air slides, cement coolers, and dust collectors; regulates water, air and oil lines on machine according to lab specifications; may regulate feeder mechanism on machines not equipped with automatic regulators; may add moisture to materials to facilitate flow into machine.

Qualifications

1. Training and experience: Required to learn operation of the machine through on-the-job training. Experience within the area of this industry is required and usually is gained by working in lower level jobs such as Laborer, Helper, and Trainee.
2. Ability to follow oral and written instructions
3. Ability to learn safe and efficient operation of the specific machinery tended
4. Some mechanical ability

Current Wages

$3.20/hr.

Places of Employment

Manufacturer of Cement and Cement Products

Opportunities

Training in this occupation may qualify one for training in operating machinery at this level of skill and experience. Other opportunities which may be pursued would be:

Batch Plant Operator
Kiln Operator Trainee
Maintenance Helper

Regarding other occupations at this level, the Miller could progress to the following positions:

Kiln Operator
Maintenance Man
Leadman Plant

OFFSET PRESSMAN I/ APPRENTICE PRESSMAN
(D.O.T. 651.782)

Job Summary

At the entry level the Offset Pressman receives training and instruction to carry out the activities and responsibilities of higher level or Journeyman Pressmen. Under supervision some of the training and duties performed are simple design and similar art work as directed; instruction and photograph materials for printing; develops negatives; operates platemaking equipment and rubs plates with chemicals to bring out images; mixes ink; operates and adjusts an offset press in printing various types of forms including multi-color and half-tone work; may set type and operate a proof press and platen press; cleans and lubricates and maintains equipment; makes simple adjustments and minor repairs to equipment; operates stapling and folding, paper drilling and cutting, and other accessory equipment; stitches, tapes or glues materials for binding; packages printed materials; receives and stores supplies and materials; carries out activities of a printing unit as assigned by a supervisor or Journeyman.

Qualifications

1. Graduation from high school. Any office or clerical work that involves a high degree of mechanical ability may be required.
2. Ability to learn related and photographic processes as required; learn the operation and care of offset printing machinery; understand and follow oral and written instructions
3. May vary according to the employer or printing shop

Current Wage/Salary

$1.80 - $3.35/hr. Starting

60% - 100% Journeyman wages

Places of Employment

Printing Houses
State of Hawaii
City and County of Honolulu
Hawaii, Maui and Kaui Counties
Photoengravers

Promotional Opportunities

An Apprentice is usually considered a General Worker and learns the trade under supervised help for a period from two to four years. Progress in this trade work area is as follows:

General Worker (2 yr.)
Feeder (2 yr.)
MICR
Stripper
Platemaker
Camera Operator

See also Press Helper, Communications

MANUFACTURING

PACKAGER
(D.O.T. 920.885)

Job Summary

The Packager tends a machine that performs one or more packaging functions, such as cleaning, filling, marking, labeling, sorting, tying, weighing, inspecting, packing, wrapping, or closing containers; starts machine and observes operation to detect malfunctions of machine and off-bearing mechanisms; stops machine and reports or corrects malfunctions; makes minor adjustments or repairs; inspects filled container to insure that product is packaged according to specifications; may feed to conveyors, hoppers, or other feeding devices, and unload packaged product; may replenish packing supplies, such as wrapping paper, plastic sheets, boxes, cartons, glue, ink, or labels, mounting supplies on spindles or placing them in hopper or other feeding devices; may position and hold container in machine and press pedal or button or move lever to clean, glue, label, sew, or staple container; may cut stencils and stencil information on container; may tally number of units of product packaged or record other information, such as size, weight, and type of products packaged.

The materials and products may also be packaged by hand. The Packager performs any or all of the above duties by hand; packs special arrangements or selections of product; visually inspects each step of the packaging process.

Qualifications

1. Training and experience: may require graduation from high school
2. Mechanical ability may be required for work with machines
3. Ability to follow written or oral instruction
4. May be required to pass minimum physical or health condition standards deemed necessary to the demands of the job or as required by the State

Current Wages

$1.65/hr. State Minimum
$3.20/hr. Range

Promotional Opportunities

This is usually an entry level position which may progress to supervisory levels. Experience in this type of work may lead to jobs such as Utilityman, requiring mechanical work experience qualifications or to entry into Apprenticeship opportunities.

Places of Employment

Manufacturers of Food Products
Confectioners
Bakeries
Preserved Food Distributors

Employment Outlook

Employment in this area is variable; work may be steady or increasing where large employers are concerned but rises and falls with the birth and mortality rate of small business ventures.

PHOTOENGRAVER
(D.O.T. 971.381)

Job Summary

The Photoengraver photographs copy, develops negatives, and prepares photosensitized metal plates, such as copper, zinc, aluminum, and magnesium for use in printing; positions copy on copy board of darkroom camera and exposes film to copy; handles solutions and operates machines and equipment to expose negative and plate to bright light in printing frame to transfer image to plate; exposes bare metal after washing plate; places developed plate in acid bath or etching machine to erode unprotected metal to specified depth; mounts etched plates on wood blocks to raise printing surface type high; removes excess metal from nonprinting areas of cut using routing machine; cuts mortices in mounted plates using power drill and jigsaw to insert type or other cuts; modifies and repairs finished plates using engravers' handtools, etching brush and acid.

Qualifications

1. Training and experience: graduation from high school; any work involving a high degree of mechanical ability may be required.
2. Ability to learn related and photographic processes as required.
3. May vary according to the employer or printing shop

Current Wages

$1.80 - $3.25/hr. Starting
$5.25/hr. Range

Promotional Opportunities

An Apprenticeship period of at least two years is usually required during which time the trade is learned under supervised help and direction. The Journeyman Photoengraver is usually qualified to perform any of the jobs related to preparatory printing work such as: Stripper/Platemaker, Camera Operator.

Places of Employment

Printing Houses
State of Hawaii
Newspaper Publishers

Employment Outlook

Although employment in this area should be expected to increase to meet the needs of the expanding community, present employment should be sufficient to meet any future needs of the State at the present time.

PLASTICS FABRICATOR
(D.O.T. 754.884)

Job Summary

The Plastics Fabricator fabricates articles, such as signs, window accessories, windows, awnings, etc., from plastic sheets, rods, and tubes, according to blueprints and using mold forms, jigs, measuring instruments, and power machinery; lays out cutting lines on plastic sheet using templates, rule, compass and marking pencil; cuts parts from sheet using router or bandsaw; softens plastic parts in oven; molds part to shape on form or in jig and allows part to set; cuts drills, slots, and trims part using router, miller machine, powersaw and shaper; turns part on lathe to shape; assembles article; verifies dimensions of article using measuring instruments; examines for defects, such as scratches or cracks; may coat with wax and pack for shipment.

Qualifications

1. Training and experience for this position is usually acquired in on-the-job training in a Trainee or Helper position.
2. Ability to use common handtools and various types of power tools
3. Ability to follow oral or written instructions or specifications, drawings, etc.

Current Wages

$3.00+/hr.

Promotional Opportunities

Entry to this level is usually made after completion of a period of training lasting anywhere from six months to a year or more. Progress in this area is usually limited to the level of Working Foreman.

Places of Employment

Manufacturers of Miscellaneous Plastic Products

Employment Outlook

Employment in this area is likely to grow to meet the demands for fabricated plastic products both locally and nationally to meet the needs of an expanding urban population and to meet any demands elsewhere.

POWDERMAN
(D.O.T. 737.884)

Job Summary

The Powderman assembles, plants, and detonates charges of industrial explosives to loosen earth, rock, or to demolish structures to facilitate removal; examines mass composition, structure, and location of material or object to be blasted, estimates amount and determines kind of explosive to be used; marks amount and determines kind of explosive to be used; marks location of charge holes for drilling; assembles primer and places it in charge holes along with main charge; covers charge with mud, sand, clay, or other materials, and tamps it firm to improve detonation and confine force of blast; lights fuse or connects wires to bettery or detonator after clearing area of men and equipment; may operate jackhammer, hand drill, or electric drill to bore holes for charge; may be required to climb cliffs or banks to plant charges using ropes and safety harness.

Qualifications

1. Training and experience: usually serves as a helper until fully qualified to do this type of work; required to be licensed
2. Ability to learn the work and all the safety precautions due to the hazardous nature of the work
3. Ability to follow oral and written instructions closely
4. Strict attention to duties of the job
5. Ability to use hand and power tools to the extent required by the job for setting charges

Current Wages

$4.50/hr. Helper
$5.00/hr.

Places of Employment

Manufacturers of Concrete and Concrete Products
Rock Quarries
Earth Moving Construction
City and County

Employment Outlook

Due to the type of work and its use within the industry, expansion would be limited to very few openings.

Job Summary

The Sawyer sets up and operates power-driven saws of various types to cut materials of various sorts (wood, plastics) to specified dimensions; installs blades in saw and sets guide bars and stops; positions materials on saw table; starts saw and feeds material to blade; verifies dimensions of material cut using rule, micrometer, and gauges; examines pieces for defects and sorts defective pieces according to defect; may mark cutting lines on material; may maintain saws in operating condition.

Qualifications

1. Training and experience in operating various types of saw machines may be required.
2. Knowledge of safety precautions observed with this type of work
3. Ability to use measuring devices; may require knowledge of basic mathematical principles involved in this type of work
4. Ability to follow oral or written instructions

Current Wages

$2.50 - $3.50/hr. Depending on the employer and the Union agreements in effect.

Career Range: $2.50 - $4.00+/hr.

Places of Employment

Sawmills
Planing Mills
Construction Firms
Lumber and Wood Manufacturers

Promotional Opportunities

The applicant may have started at a lower entry level, such as Helper. After working up to the position of sawyer he may progress to other positions such as: Sawyer 1/c; Machine Operator of various type saws, such as: Circular Saw, Gang Saw, Rip Saw, Wire Saw, Planer, etc. At some mills, the applicant serves as a Mill Operator for a period of approximately nine months. After this he becomes a Mill Operator 2/c; he progresses to higher levels of operating positions as noted above. He may work up to the level of Leadman and Working Foreman.

SEAMSTRESS
(D.O.T. 785.381)

Job Summary

The Seamstress performs various sewing operations as a regular and continuing work assignment. This may include any or all of the following: sews, mends, plans, lays out, or alters garments; operates sewing, button-holing, and cutting machines; drafts patterns and cuts from patterns; performs upholstery work; packs and unpacks supplies and equipment, may estimate cloth, buttons, thread or other supplies needed; periodically receives and checks and mends garments, shirts, dresses and other types of material and textile goods.

Qualifications

1. Training and experience: one year of experience in cutting and sewing wearing apparel such as dresses and work clothes; completion of the eighth grade; or any equivalent combination of experience and training
2. Knowledge of sewing, mending, and alteration methods; the operation and care of power sewing, button-holing and cutting machines; techniques used in cutting and drafting patterns
3. Ability to follow oral and written instructions
4. Personal Qualities: neatness, patience, reliability and thoroughness
5. These qualification specifications vary throughout the industry depending usually upon whether or not the manufacturer is unionized.

Current Salary/Wages

$1.65/hr. State Minimum for entry level/trainee positions
$4.87/hr. Union piecework rate based on incentive
$400 - $583/mo. Based on State of Hawaii salaries

Places of Employment

State of Hawaii
Textile printers and processors
Manufacturers of men's, women's, children's clothing

Promotional Opportunities

Openings in this manufacturing area begin with the positions of Trimmers and Pressers who help to prepare material for processing by the Seamstress. Employers usually supply on-the-job training. With sufficient ability, a person may progress to the Seamstress or to Supervisory positions.

Promotional Outlook

Manufacturers look forward to expansion in this area. This is usually a steady market open to Seamstresses due to the turnover of younger women who leave to seek employment in more "glamorous" work areas.

MANUFACTURING

SIRUP MAKER
(D.O.T. 529,782)

Job Summary

The Sirup Maker tends equipment to mix ingredients that produce sirups used in canned fruits and preserves, flavorings, frozen novelty confections, or non-alcoholic beverages; determines amounts of ingredients, such as sugar, water, and flavoring, required for specified quantity of sirup of designated specific gravity, using sugar-concentration and dilution charts; opens valve to admit liquid sugar and water into mixer, or dumps crystalline sugar into mixer and admits water; adds flavoring ingredients and starts mixer to invert sugar, eliminate air, and sterilize sirup; tests sirup for sugar content; pumps sirup to storage tank; may filter to remove impurities; may blend raw sirups.

Qualifications

1. Training and experience may be required; where no prior work experience is required, training may be on-the-job.
2. Ability to follow oral or written instruction or directions related to mixing ingredients or blending sirups
3. Mechanical ability may be required when operating large mixers.

Current Wages

Start: $2.00/hr.
Range: $3.50/hr.

Promotional Opportunities

Entry into this type of work is usually made at some lower level, such as plant worker or Sirup Room Helper, during which time on-the-job experience is acquired which leads to the position of Sirup Maker or Sirup Man. Progress in this occupation is usually to the position of Leadman.

Places of Employment

Bottlers of non-alcoholic Beverages
Makers of Concentrated Sirup or Juices
Canners of Fruits and Preserves

Employment Outlook

Opportunities for work with manufacturers of canned or preserved fruits and juices may vary with the seasonal need of the specific fruit-harvesting schedules. Employment in this area may expand to meet the demand for more fruit products of varied type from the State.

MANUFACTURING

SMOKER
(D.O.T. 522.782)

Job Summary

The Smoker controls the smoke chambers in which meats, such as bacon, hams, sausages, shoulders, weiners are cooked and cured; loads racks and cages, suspended from overhead conveyor, with meat products and filled molds, and pushes into smokehouse for cooking and curing; shovels sawdust into hopper of smoker and lights burner to ignite sawdust; starts blower to admit air and blow smoke into curing chambers; observes gauges, turns steam valves, and adjusts ventilators and dampers to regulate temperature, humidity, and density of smoke to control cooking and curing process; inspects meat for color, feels it for firmness, and inserts thermometer into meat to ascertain progress of cooking and curing; opens water valve to spray and chill meat; removes cooked and cured meat and empties molds; pushes racks of cured meat to chill room; may record weight and amount of meat cured; may steam-clean smoke chambers and heating coils, and remove ash.

Qualifications

1. Training and experience: two years' training as an Apprentice Butcher: Apprentice Sausage Maker
2. May be required to meet minimum health condition standards established by the employer or the State.

Current Wages	Places of Employment
$2.50/hr. Starting; Apprentice	Meatcutters
$3.30/hr. Range	Sausage Producers

Promotional Opportunities

This is an example of one of the duties that the Journeyman Butcher is qualified to perform. In this position, he is usually assigned to work in the Sausage Kitchen and serves an Apprenticeship as Sausage Maker for two years.

Employment Outlook

Employment in this area should expand to meet the needs of an expanding population and community which maintains prepared meats as one of its prime food sources.

STAYER OPERATOR
(D.O.T. 641.885)

Job Summary

The Stayer Operator tends a machine that folds and tapes corners of cardboard box blanks to form containers; bolts box form to machine ram; adjusts walls of well to correspond to size of box form; places reels of tape on machine feedrack and threads tape through feed and moisture rolls; starts machine and loads scored boxes on pallets; may position boxes on gummed wrapper.

Qualifications

1. Training and experience may be required or applicant may receive on-the-job training while serving as a Plant Worker.
2. Ability to work with hand tools; general mechanical ability

Promotional Opportunities

The applicant usually starts at a lower level of entry, such as Plant Worker, or serves an Apprenticeship period designed to prepare him for the safe and efficient operation of these and other paper product machinery.
Other positions the Stayer Operator may be able to fill or progress to:

Slitter Operator
Taper Operator
Corrugator Operator
Rite Size Operator
Machine Set-Up Man

Current Wages

$2.60+/hr.

Places of Employment

Manufacturers of Paperboard Containers and Boxes

SWITCHBOARD OPERATOR
(D.O.T. 235.862)

Job Summary

The Switchboard Operator works under the direction of a Service Assistant who is responsible to an Assistant Chief Operator. The Operator sets up and completes telephone connections over radio, landline, local PABX and conference facilities; provides subscriber telephone numbers and information on status of subscriber lines; cancels calls when specified by subscribers or operation practices; tallies all calls answered at switchboard positions; performs other related work as necessary to complete telephone calls to distant points and to provide subscribers with proper information.

A Switchboard Operator may act as receptionist to accept local calls, radiograms, money orders, flower orders; perform job as a cashier; check all paid calls; act as interisland operator handling and relaying messages; perform other clerical work as required.

Full scope of the occupation will vary according to the size of the operation (telephone company, hotel, business office, etc.)

Qualifications

1. Experience is usually not necessary as applicant is provided on-the-job training.
2. Height: able to sit comfortably at the switchboard
3. Weight: may vary according to company requirements
4. Hearing: normal, no aids allowed
5. May be required to pass a personnel and/or job test

Current Wage

Start: $2.43/hr.
Range: $3.15/hr.

Place of Employment

Hawaiian Telephone Company
Hotels
Business Offices
Institutions requiring switchboard services

Promotional Opportunities

Opportunities increase with the size of the switchboard operations. The best area for progression is the telephone companies: an operator may move to a higher level of supervisory work.

Employment Outlook

There is presently a limit on openings with the Hawaiian Telephone Company and no positions of this class are available. Positions may be open at other places of employment.

WAREHOUSEMAN
(D.O.T. 922.887)

Job Summary

The Warehouseman primarily performs manual work in the receipt and issuance of warehouse materials and may operate light to medium weight trucks and fingerlifts in the pickup and delivery of items for a warehouse. The Warehouseman also hand-trucks, carries, pushes, or rolls merchandise and materials about a warehouse; stacks or otherwise stores merchandise and materials in proper place by manual lifting or by fingerlift; crates or packs material for shipment; checks items received or delivered against invoices; issues materials; assembles materials as requested by requisition; makes proper notation of delivery on records; takes proper steps to insure that items placed on trucks are safe for trip; loads and unloads deliveries of merchandise to and from warehouse; is responsible for taking trucks and fingerlifts for routine servicing; makes simple repairs to supplies and materials; cleans and maintains warehouse area; performs as required.

The specific duties of the warehouseman will vary according to many factors, such as the employer, the size of the operation, the type of manufacturing, etc.

Qualifications

1. Training and experience: one year of work experience dealing with the handling of freight or supplies and completion of the eighth grade. This requirement may vary according to the needs of the employer (may require no general work experience and provide on-the-job training).
2. Knowledge of methods of servicing and making simples repairs of tools, trucks and fingerlifts (this requirement may be waived).

3. Ability to make simple arithmetic computations; take physical inventories; post simple records; compare goods received and delivered against invoices; work with ordinary hand tools; understand and carry out oral and written instructions; foresee occupational and traffic hazards and take effective measures to eliminate them; perform manual work; keep the warehouse clean and in orderly condition; these requirements may vary according to the employer.

Current Salary/Wage

$1.65/hr. State Minimum Wage
$2.90 - $4.00/hr. General Wage
$436 - $530/mo. State of Hawaii

Places of Employment

Manufacturers with Warehouse storage
Materials Handling Retailers and Wholesalers
Freight Forwarders

Promotional Opportunities

There are various levels of entry and progression according to level of experience. Progress may be to simple supervisory positions or to those of a highly complex order depending on the size of the manufacturer and the type of materials handled.

WOODWORKING-MACHINE OPERATOR
(D.O.T. 669.782)

Job Summary

The Woodworking-Machine Operator operates one or more hand- or power-fed woodworking machines to surface, size, or joint lumber or to cut tongues, grooves, bevels, beads, or molding patterns; selects and installs cutting heads according to pattern to be cut and work order, using wrenches and gauges; runs boards over cutting knives and through machines or inserts into automatic feed mechanism that carries it through the machine; verifies cuts, angles, and dimensions to insure conformance to specifications, using gauges, square, rule or template.

Qualifications

1. Training and experience in operating woodworking machines may be required; may be required to serve an Apprenticeship period of nine months.
2. Knowledge of safety precautions observed with this type of work
3. Ability to use measuring devices; may require basic knowledge of mathematical principles used with this type of work
4. Ability to follow written instructions

Current Wages

$2.50 - $3.50/hr. Depending on the employer and the Union agreements in effect.
Career Range:
$2.50 - $4.00+/hr.

Places of Employment

Sawmills
Planing Mills
Construction Firms
Lumber and Wood Manufacturers
Woodworking Shops

Promotional Opportunities

The applicant usually starts at a lower level of entry, such as Helper, and serves as an Apprentice prior to moving into this position. The Woodworking-Machine Operator is qualified and may also be known as:

- Jointer Operator
- Molder Operator
- Planer Operator
- Glue-Jointer Operator
- Groover Operator
- Matcher Operator

From this, the career progression may lead to:

- Operator 1/c
- Leadman
- Layout Man
- Working Foreman
- Foreman

MARINE SCIENCES

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MARINE SCIENCES

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II. Local Outlook

III. Training Programs

IV. Marine-Related Fields

NATIONAL OUTLOOK

Today an industry is being created, marine science. Because the field is new, the industry is not able to support itself completely yet. There are many kinds of marine scientists:

Ocean scientists are concerned with studies of the nature of the ocean, the air-sea surface, the ocean bottom, and all the things that live in the ocean. Oceanic engineers discover how to make the ocean productive for man, and technicians assist the scientists and engineers in their work. Sociologists and psychologists are concerned with the effects of ocean life on man and economists administer the programs. Some marine aides are employed from high school and are trained on the job to help the professional workers. A marine technician has two years of college and an associate degree in marine science. Ocean engineers, along with other marine scientists, usually have at least a bachelor's degree or a master's degree and others hold the doctorate.

The forecast for employment is a cautious one because many factors influence the growth rate of this new field. According to Dr. Harold L. Goodwin, deputy director of the National Sea Grant Program in Washington, "*general information in this field (marine science) is valueless at worse and misleading at best.*" In a further publication distributed by the American Society for Oceanography, Dr. Goodwin indicates that it is important to understand there will be a tendency to ride the "bandwagon" in any field that appears to be growing as rapidly as oceanography. He says:

> *Be skeptical of exaggerated claims, particularly in books written for popular consumption, about careers in oceanography. Most of these err considerably on the optimistic side. Enthusiasm for this field should be liberally tempered with caution and discretion. The employment market right now is poor, and, in several*

> *subordinate categories of oceanography, supply seems about to exceed demand. This is particularly true for biological and geological oceanography. For the time being, there appears to be a good future for engineers and technicians, and also for a few ocean-oriented behavioral scientists...*

What kind of person goes into marine sciences?

1. If you hate math and find it hard to handle, forget about working in chemical or physical ocean science; math is vital.

2. If you don't like funny-looking creatures or don't like dissecting them in a lab, forget marine biology.

3. If you prefer to work with your hands as well as using your brain, you may do well as a technician.

4. If you are a scholar, you may want to continue your education farther than the two-year level, but you must look closely at your own abilities.

5. Find out what keeps you contented--that should be considered. How much money will you make? The final factor is how much you are worth to an employer. Some technicians make more than researchers.

According to Dr. Goodwin, there is little to indicate a strong employment demand in marine science in the foreseeable future.

LOCAL OUTLOOK

Dr. John Craven, director of the Sea Grant Program at the University of Hawaii, holds the same general outlook for the future of ocean science in the State of Hawaii as do Dr. Goodwin and his associates for the nation as a whole. There are presently two educational institutions in the State which have formal programs related to the ocean sciences--the University of Hawaii and Leeward Community College. Another school that offers instruction in marine transportation and ship handling is the Pacific Maritime Academy (PMA is covered under transportation.) These schools produce many of the marine science personnel working in the State. Although the Leeward Program is only a few years old, it has placed every graduate in a job at the completion of the program. (This may appear contradictory to earlier statements, but the program is small with few graduates and the local market for marine technicians has been able to accommodate them).

There is usually some kind of work to be done, but movement from one job and company to another is common and most jobs last less than a year. At the present there is money available for environmental study so many technicians are employed in that area. Work is more stable for those who have master's and doctor's degrees, but initial placement is more difficult. For those with some resources and innovativeness, there are many new areas which can be explored using marine technology to make a profit. Some of these are listed below:

1. Submersibles: craft that go beneath the surface of the ocean and carry tourists to some of the reef areas near the shore
2. Snorkel and scuba equipment rentals for tourists in such areas as Hanauma Bay where they can observe reef life
3. More extensive use of glass bottom boats for tourism

4. Underwater parks where all three of the above mentioned concessions could operate offering more activity to visitors of Hawaii

5. Water taxis to offer transportation from such points as the airport to Waikiki

6. Hulten's ferry for inter-island mass transit

7. Kentron's hydrofoil for inter-island transportation at high speed

This is but a small list of ideas that could be implemented using marine skills and planning. Some of these ideas are being carried out now and others are just being considered.

TRAINING PROGRAMS

The marine science educational programs in the State are described below. At present the job market is greater for technicians.

Leeward Community College Program

Requires two years (Fall and Spring semesters) and one summer for completion of the Associate of Science degree in Marine Technology. As part of the program credit is given for on-the-job training at the following places: Dillingham Corporation, Hawaii State Fish and Game Division, Makapuu Oceanic Center, U.S. Bureau of Commercial Fisheries, U.S. Navy Underwater Research and Development Center, and the University of Hawaii.

The program curriculum is as follows:

1st semester	Credits	2nd semester	Credits
English	3	Scuba Diving	1
Math	3-5	Oceanography	3
Swimming and Skindiving	1	Math or Science Electives	3-5
Chemistry	4	Biology	4
Marine Technology	3	Engineering Graphics	3
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Summer On-the-Job Training including some time at sea.

3rd semester	Credits	4th semester	Credits
Physics	4	Physics	4
Marine Technology	3	Marine Technology	3
Basic Electronics	5	Electronics	0-3
Electives	3	On the Job Training	6-9
	15		15

The University of Hawaii Program

Three programs are offered for the undergraduate students at the Manoa Campus. They are as follows:

1. Marine experience program: a short-term program designed to give students who do not intend to

make a career in the marine field a chance to gain exposure in this area. It consists of short excursions where the student will gain insight into a specific marine operation such as fishing, ship building, sailing, underwater photography, etc.

2. Marine Option Program: a longer-ranged program designed to encourage the undergraduate student in any discipline to acquire knowledge about the marine field. It hopes to stimulate the interest of students so that they will continue to work in marine-related vocations after graduation. Certain course work is required. At least 12 hours of work must be marine-related, including Oceanography 201. Also, the student must attain proficiency in one area of marine science. This may be done through the marine internship program.

3. Marine internship program: a program where the student is interested in a specific marine-related project and indicates the skill he wishes to acquire. The Student will be assigned to a sponsoring professor or agency which will actively participate in the student's learning process.

Further programs at the University are academically related and lead to the advanced degrees of M.S. and Ph.D. Further information can be obtained by writing:

Office of Marine Programs
225 Spalding Hall
University of Hawaii
Honolulu, Hawaii 96822

MARINE-RELATED FIELDS

Because there are no set guidelines for employment positions in the State for marine technicians, and each job is a highly specialized one, there are no job descriptions for this area. There is, however, a listing of the general areas of marine-related activities in the "Directory of Marine Related Activities in the State of Hawaii," published by the Office of Sea Grant Programs, University of Hawaii.

Fields of Marine Related Activities

Aquaculture
Beach and Harbor Cleaning
Boat Building and Repair
Boat Equipment Supplies
Boat Hauling and Storage
Boat Rides and Sightseeing
Boat Sales and Brokerage
Coastal Survey and Cartography
Commercial Diving
Commercial Fishing
Consultants, Professional and Technical
Coral (Precious) Jewelry Manufacture
Diving Equipment Supplies
Fish Marketing
Fish Processing
Fish Equipment Supplies
Instruction and Training
Marine Construction
Marine Engineering
Marine Equipment Supplies
Marine Exhibits
Marine Insurance and Financing
Marine Salvage
Marine Service Station
Marine Surveying
Naval Architecture & Boat Design
Research and Development
Salt Supplies
Sand and Gravel Supplies
Sport Fishing
Ship Building and Repairs
Ship Handling
Shipping
Surfboard Manufacture
Swim and Beachwear Manufacture
Underwater Photography
Water Skiing Equipment Supplies

Further information on this new and expanding field may be obtained from:

Marine Technician Training (Associate Degree)

Registrar, Leeward Community College
96-050 Farrington Highway
Pearl City, Hawaii 96782

Marine Experience, Internship, and Option Programs

Office of Marine Programs
255 Spalding Hall
University of Hawaii
Honolulu, Hawaii 96822

Marine Science Training (Master's Degree, and Doctor of Philosophy Degree)

Department of Ocean Engineering
Keller Hall 201-A
University of Hawaii
Honolulu, Hawaii 96822

Department of Oceanography
Hawaii Institute of Geophysics 342
University of Hawaii
Honolulu, Hawaii 96822

MARKETING AND DISTRIBUTION

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MARKETING AND DISTRIBUTION

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New Car Get-Ready-Man

C. Jobs Defined Elsewhere

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Autobody Repairman - Marketing and Distribution
Automobile Mechanic - Marketing and Distribution
Mechanic - Heavy Duty - Transportation

X. Bibliography

D. Jobs Defined Elsewhere

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Motorcycle Repairman
Office Machine Repairman
Shoe Repairman
Watch Repairman

MARKETING AND DISTRIBUTION

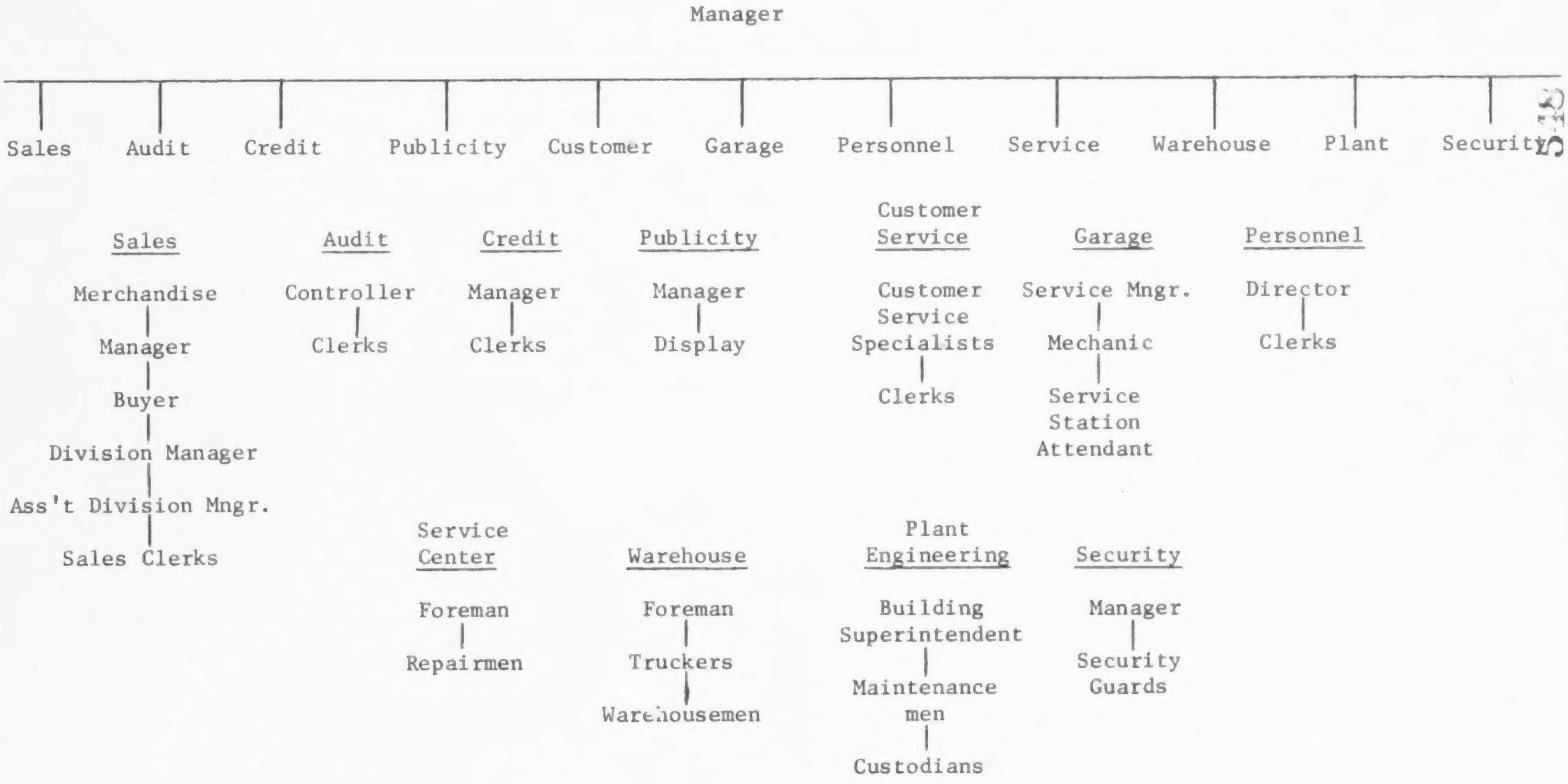
Wholesaling and retailing are the final stages in the process of transferring goods from producers to consumers. Wholesalers assemble goods in large lots and distribute them to retail stores, industrial firms, and institutions such as schools and hospitals. Retailers sell goods and services directly to housewives and other consumers in a variety of ways. A list of the items sold by wholesale and retail businesses would include almost every item produced by industry -- automobile, clothing, food, furniture and countless others.

Employment is expected to increase moderately through the 1970's. Increasing population, consumer expenditures, tourism, and the trend towards keeping stores open longer hours are major factors contributing to the expected growth locally. Applications of laborsaving technology will somewhat restrict employment requirements.

The area of retail merchandising comprises a large sector of the employment field. Companies not only sell merchandise, but have a variety of supporting services, such as consumer protection, repair, credit services, plant maintenance, etc. Efficiency and customer satisfaction are among many reasons for rapid growth.

Workers with a wide range of education, training, skill and ability are employed. Because of a general policy of promotion from within, warehousemen become foremen and sales clerks can become store managers. Educational and training opportunities abound. A constant need exists for people who have initiative and who enjoy meeting new people.

RETAIL MERCHANDISING


Manager
Sales
Audit
Credit
Publicity
Customer
Garage
Personnel
Service
Warehouse
Plant
Security
Sales
Merchandise
Manager
Buyer
Division Manager
Ass't Division Mngr.
Sales Clerks
Audit
Controller
Clerks
Credit
Manager
Clerks
Publicity
Manager
Display
Customer Service
Customer Service Specialists
Clerks
Garage
Service Mngr.
Mechanic
Service Station Attendant
Personnel
Director
Clerks
Service Center
Foreman
Repairmen
Warehouse
Foreman
Truckers
Warehousemen
Plant Engineering
Building Superintendent
Maintenance men
Custodians
Security
Manager
Security Guards

MARKETING AND DISTRIBUTION

APPLIANCE SERVICEMAN
(D.O.T. 637.281 and
723.884)

Job Summary

The Appliance Serviceman repairs appliances that range from small, relatively uncomplicated items such as toasters and irons, to large appliances. He determines why an item does not operate properly, then installs new parts, repairs parts, or makes adjustments. He usually specializes in repairs of either electric or gas appliances, and in the case of large appliances, specializes in the repair of a single type, such as home laundry appliances, refrigerators, freezers, or dishwashers.

Qualifications

1. Good mechanical aptitude
2. High school courses in mathematics, electricity and physics
3. Understanding of how to use equipment that measures electricity

Current Salary

$2.58 - $5.24/hr.

Promotional Opportunities

Foreman

Training Program

Manpower - Specialized Company schools furnish training. Helpers are hired at times and acquire their skill through on-the-job training and work experience.

Additional Information

Association of Home Appliance
Manufacturers
20 North Wacker Drive
Chicago, Ill. 60606

AUTOMOTIVE MECHANIC
(D.O.T. 620.131)

Job Summary

An Automotive Mechanic determines mechanical difficulties and restores vehicles to proper condition. He disassembles, overhauls and reassembles engines, standard and automatic transmission, clutches, and rear ends; works on rings, pistons, mainbearings, connecting rod bearing, king pins, gears, crank shafts, bushings, etc.; and in addition to using standard automotive tools, may use welding equipment, lathes, drill presses, etc.

Qualifications

Most mechanics are requested to purchase their handtools.

Current Salary

$2.49 - $6.76/hr.

Training Program

Manpower on-the-job specialization in one field is common: Community College Programs at Hawaii, Honolulu, Kauai, Leeward and Maui; Project Transition Program; Work Incentive Program; Concentrated Employment Program.

Promotional Opportunities

Mechanics can move into supervisory positions. Many prefer to open their own garage.

Further Information

Automobile Service Industry Association
168 North Michigan Avenue
Chicago, Ill. 60601

Job Summary

An Automotive Mechanic Helper assists a skilled mechanic in the repair, maintenance, and overhaul of motorized equipment. He assists in disassembling, overhauling and reassembling engines, standard and automatic transmissions; repairs and replaces defective parts under the close supervision of the journeyman; may service, wash and polish vehicles.

Qualifications

1. Ability to use power tools and welding equipment
2. Expected to accumulate tools while he learns

Current Salary

$1.75 - $4.92/hr.

Promotional Opportunities

Journeyman mechanic

Training Programs

Manpower on-the-job: Community College Programs at Hawaii, Honolulu, Kauai, Leeward and Maui; Project Transition Program; Work Incentive Program; Concentrated Employment Program

MARKETING AND DISTRIBUTION

BUILDING CUSTODIAN
(D.O.T. 382.884)

Job Summary

A Building Custodian is responsible for upkeep and maintenance of an establishment. He keeps the building clean and orderly, may wet or dry-mop floors, vacuum carpets, clean furniture and other equipment and make minor repairs.

Qualifications

1. Ability to use power-operated cleaning equipment
2. Good health is essential as a building custodian is often requested to do strenuous tasks.

Current Salary

$1.60 - $4.74/hr.

Training

Most building custodians learn their skills while working on the job.

Promotional Opportunities

A conscientious individual can move to supervisory positions or gain experience which would qualify him for a position as a maintenance man.

BUILDING MAINTENANCE MAN
(D.O.T. 899.381)

Job Summary

A Building Maintenance Man performs a variety of general repairs and maintenance work in a building. He replaces defective electrical switches and other fixtures, paints structures and repairs woodwork with carpenter's tools; repairs plumbing and plaster.

Qualifications

General knowledge of electricity, plumbing, and carpentry

Current Salary

$3.00 - $5.80/hr.

Promotional Opportunities

Salary increments and possibility of supervisory position

Training Program

A person hired for this position is expected to have experience in electrical repair and plumbing.

MARKETING AND DISTRIBUTION

BUYER
(D.O.T. 162.158)

Job Summary

A Buyer purchases merchandise for resale. He selects and orders merchandise from showings of manufacturing representatives, basing selection on nature of clientele, demand for specific merchandise, and experience as buyer; authorizes payment of invoices or return of merchandise; and conducts staff meetings with selling personnel to introduce new merchandise.

Qualifications

1. College graduate
2. Ability to organize and foresee long-term needs
3. Skill in verbal and written language to maintain contacts with many firms

Current Salary

$600 +/mo.

Training Program

Generally promotion is from within. Other merchandising and management experience is preferred.

Promotional Opportunities

Depending on talents, training, interest and experience, movement to other executive positions such as personnel director, store manager, merchandise manager

DISTRIBUTION AND MARKETING

CREDIT MANAGER
(D.O.T. 168.168)

Job Summary

A Credit Manager manages the credit and collection department of a department store or similar establishment. He reviews and evaluates results of investigations to reject credit application or to establish credit limitations on customer accounts; supervises collection of bad accounts and worthless checks; keeps records of collection.

Qualifications

1. College graduate with specialization in math, business, psychology and computers
2. Ability to efficiently organize work among the other members of the credit staff

Current Salary

$10,000 +/yr.

Promotional Opportunities

Other executive positions

Training Program

Often start as a cashier

MARKETING AND DISTRIBUTION

CUSTOMER SERVICE SPECIALIST
(D.O.T. 204.268)

Job Summary

A Customer Service Specialist performs personal services for customers; prepares special order worksheet, and arranges for repair or replacement of defective items covered by warranty; answers customers' inquiries and directs them to source of pertinent information.

Qualifications

1. The most important qualification is the ability to deal tactfully with the public in handling complaints.
2. Thorough knowledge of the merchandise and services offered by the firm is also important.

Current Salary

$300 - $936/mo.

Training Program

Background in psychology or social work as well as a thorough knowledge of business

Promotional Opportunities

Experience in customer service may permit one to move horizontally to an executive position or vertically to consumer protection positions with various organizations.

DIVISION MANAGER
(D.O.T. 299.138)

Job Summary

A Division Manager's work activities primarily involve supervising and coordinating the activities of personnel.

Qualifications

1. Ability to plan ahead and to make assignments in a manner which promotes coordinated action
2. Verbal ability to communicate effectively, orally and in writing, with supervisors and subordinates
3. Clerical aptitude to detect errors in correspondance, statistical tabulations, price lists, inventory records and timetables
4. Ability to motivate people to work cooperatively and conscientiously
5. Ability to perform work done by subordinates and to train new employees when required

Current Salary

Varies greatly depending on place of employment. From $2.00 - $3.00 an hour to possibly as high as $24,000 per year depending on place of employment.

Promotional Opportunities

Many large stores promote individuals to large and more complex departments. Successful job performance and professional development makes one eligible for executive positions.

Training Programs

Entry into this kind of work is frequently accomplished by promotion from other positions within the organization. Courses in supervisory practices are frequently required. Merchandising and mid-management curricula are available at Kapiolani and Hawaii Community Colleges.

University degrees in many fields permit one to enter this position after following training programs available by employers.

Job Summary

A Florist is an individual who cuts, arranges, sells and at times grows flowers. He takes customers' orders and makes up appropriate arrangements.

Qualifications

1. An esthetic taste in arranging flowers
2. Ability to distinguish different types of flowers
3. Ability to deal tactfully with customers

Current Salary

$1.60 - $3.50/hr.

Training Program

Many of the floral design skills are learned on the job by working with professional floral designers. The Floral Association of Hawaii offers clinics annually to individuals in this field.

Employment Outlook

Flowers and floral arrangements are more important in Hawaii than in most other states. Corsages, leis, wreaths, and bouquets made from exotic tropical flowers are popular with tourists as well as residents and will continue to provide a large number of jobs.

Information Referral Source

Florist Association of Hawaii
1417 So. King St.
Honolulu, Hawaii

MARKETING AND DISTRIBUTION

SALES CLERK
(D.O.T. 290.478)

Job Summary

A Sales Clerk displays, explains and sells merchandise to customers; determines and selects merchandise desired by customers; prepares sales slips upon completion of sale and receives payment; assists in caring for stock by arranging it and carrying it from the stockroom to display cases.

Qualifications

1. Desire to meet new people and work with others
2. Courtesy and efficiency
3. Courses in salesmanship, commercial arithmetic, and home economics

Current Salary

$1.60 - $4.50/hr.

Disadvantaged

Manpower training has a program that is quite flexible and offers the individual excellent job skills.

Information Referral Source

Retail Store Employees' Union
Local 480
Room 107 707 Alakea St.
Honolulu, Hawaii
Telephone: 521-3696

Training Program

Available by the various employers

Promotional Opportunities

Conscientiousness and initiative are essential. Various training programs permit one to move to management positions.

SECURITY GUARD
(D.O.T. 372.868)

Job Summary

A Security Guard is responsible for the safety of employees and customers; prevents theft; stands guard or walks about premises of busines to prevent theft, violence, or infractions of rules; watches for suspicious persons and activities; warns violators of rule infractions; keeps order to prevent disturbances; may guard shipment of valuables.

Qualifications

1. Good health is essential as one is required to walk and stand for long periods of time.
2. Tact and courtesy, yet firmness, in dealing with people is important.

Current Salary

$1.70 - $5.00/hr.

Promotional Opportunities

Salary increments or moves into supervisory positions

Training Program

Employers who pay more would prefer an individual with some form of guard or police department experience.

SERVICE STATION ATTENDANT
(D.O.T. 915.867)

Job Summary

A Service Station Attendant services automotive vehicles with fuel, lubricants and accessories. He fills fuel tank of vehicles to the level specified by the customer; checks the level of oil in the crankcase, water in the radiator, water in the battery and tire pressure; lubricates vehicle and changes motor oil; repairs or replaces tires; collects payment in cash or by completing the credit card sales form.

Qualifications

1. Applicant should have a driver's license, a general understanding of how an automobile works, and some sales ability.

Current Salary

$1.60 - $2.00/hr.

Training Program

Most attendants are trained on the job and are first given relatively simple work assignments.

Promotional Opportunities

Additional training qualifies attendant to become automobile mechanic; those having business management capabilities may advance to station manager or go into business for themselves.

SUPERINTENDENT, BUILDING OR FOREMAN OF PLANT MAINTENANCE
(D.O.T. 187.168)

Job Summary

The Building Superintendent or Plant Foreman is responsible for the operation and maintenance of a building. He plans sequence of maintenance and cleaning operations; hires, trains and supervises workers; inspects property and confers with subordinates to determine condition of property, and alteration or repairs required.

Qualifications

1. Ability to organize work and workers
2. Overall knowledge of building structure and maintenance

Current Salary	Training Program
$10,000 - $18,000/yr.	Extensive on-the-job experience in maintenance and supervision.

WAREHOUSEMAN
(D.O.T. 922.887)

Job Summary

A Warehouseman performs tasks involved in receiving, storing, shipping and distributing materials, tools, equipment and products. He conveys materials from receiving or production areas to storage by hand or using trucks; marks materials or containers with identifying information; packs materials for distribution.

Qualifications

1. Little formal training is required.
2. As one gains experience he is asked to perform more complicated tasks.
3. He must be in good physical condition.

Current Salary

$1.75 - $4.96/hr.

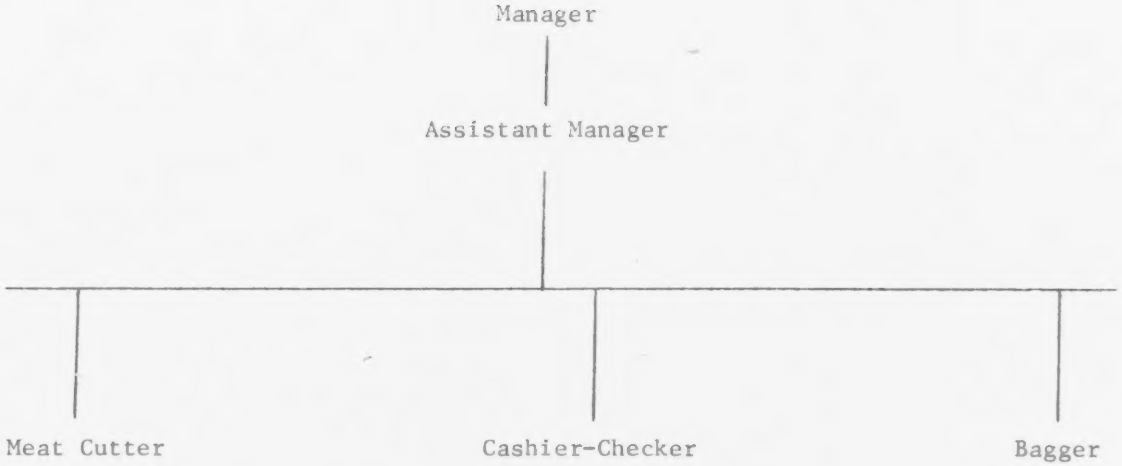
Training Program

Extensive program is available for the disadvantaged through Manpower Development Training.

Promotional Opportunities

Promotion is to management positions within warehouse. Warehouseman can also move into sales or truck driving with proper training.

SUPERMARKETS


Manager
Assistant Manager
Meat Cutter
Cashier-Checker
Bagger

MARKETING AND DISTRIBUTION
Supermarket

BAGGER
(D.O.T. 920.887)

Job Summary

A Bagger bags groceries in sacks or cartons. He may carry or push groceries in the cart to the customer's car; collects shopping carts from parking area and returns them to store; cleans work area and carries empty bottles and trash to storeroom; may price and stock food articles on shelf.

Qualifications

1. Neat, clean and courteous
2. In good health with physical strength

Current Salary

$1.60/hr .

Promotional Opportunities

This is an entry level position which requires no experience. One can learn a considerable amount about grocery business if conscientious. Advancement to supervisory or managerial position is possible for people with initiative and drive.

MARKETING AND DISTRIBUTION
Supermarket

CASHIER - CHECKER
(D.O.T. 299.468)

Job Summary

A Cashier-Checker itemizes and totals customers' purchases in a self-service grocery at a department store, using a cash register; records price on cash register, collects money from customer and makes change; may stock shelves, weigh items, bag merchandise, and issue trading stamps.

Qualifications

1. No minimal educational requirements
2. Neatness, tact and courtesy
3. Good health

Current Salary

$1.60 - $2.20 +/hr.

Further Information

Retail Store Employees' Union
Local 480
Room 107 707 Alakea St.
Honolulu, Hawaii
Telephone: 521-3696

Advancement

Training is provided at the store and continued on-the-job. One can advance to a supervisory position if he is conscientious and works consistently to improve his skills.

See also Cashier - Office and Clerical

MARKETING AND DISTRIBUTION
Supermarket

MEAT CUTTER
(D.O.T. 316.781)

Job Summary

A Meat Cutter trims meat to size for display or as ordered by the customer. He cleans and cuts fish and poultry; may wrap and weigh meat for customers and collect money for sales.

Qualifications

1. Ability to use butcher knife and power equipment, such as band saw, rotary saw, slicer and grinder
2. Better than average strength as heavy loads must be lifted

Current Salary

Journeyman salary: $140/week

Related High School Subject

Mathematics

Local Information Referral Source

Meat Cutters Union Local 594
2305 S. Beretania St.
Honolulu, Hawaii 96814
Telephone: 946-1555

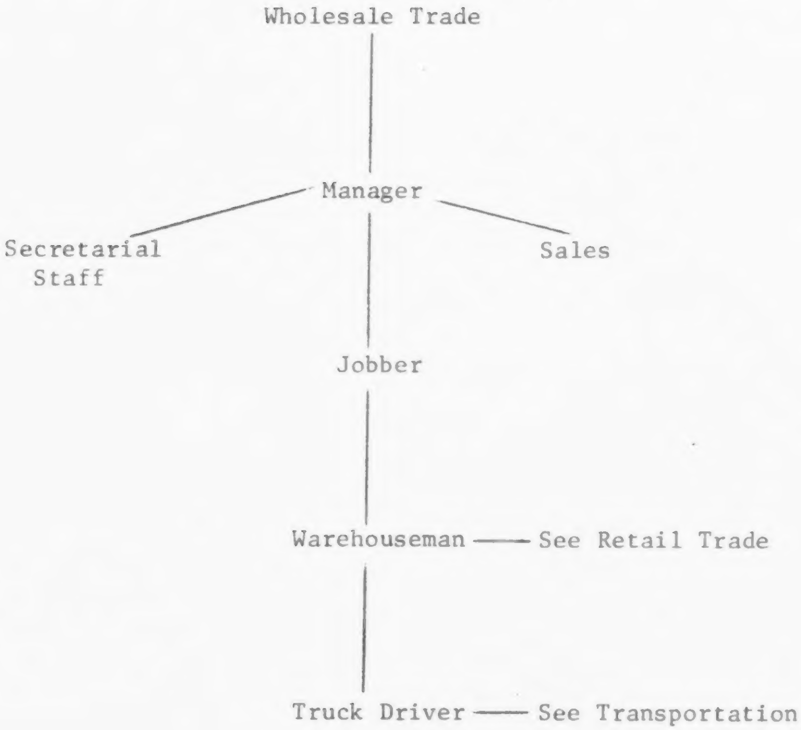
Training Program

Apprentice programs are available. Many individuals learn the skill on the job. Approximately 2-3 years of training are necessary to become a journeyman meat cutter.

Promotional Opportunities

Ambitious and talented individuals can advance to meat buyers, meat department or retail store managers.

See also Butcher - Agri-Business


Wholesale Trade
Manager
Secretarial Staff
Sales
Jobber
Warehouseman
See Retail Trade
Truck Driver
See Transportation

Advertising

The field of advertising is unique in the State of Hawaii. The relatively small number of people reached by the various forms of media limit advertising expenditures. Advertising firms are small compared to mainland standards.

Employment entry into advertising is possible through commercial or university training, or via experience as a client. Individuals who have worked in merchandising, for example, often acquire insights and knowledge that are invaluable for successful advertising employment.

Employment opportunities are available with advertising agencies, retail and wholesale firms, manufacturers, and tourism firms.

Introductory courses in advertising are offered at Hawaii Pacific College.

ADVERTISING

- President
  - Executive V. P.
    - Media Department
      - Director
        - Broadcast Media Buyer
          - Clerks
    - Administration
      - Vice President
        - Account Clerks
          - Secretaries
            - Traffic Clerk
              - Mail Clerk
    - Client Services
      - Vice President
        - Account Executives
    - Copy
      - Vice President
        - Copy Writers
          - Typists
    - Art
      - Vice President
        - Art Director
          - Production Manager
            - Paste-up Man

MARKETING AND DISTRIBUTION
Advertising

ACCOUNT EXECUTIVE
(D.O.T. 164.168)

Job Summary

An Account Executive handles relations between the advertising agency and its clients. He studies the client's sales and advertising problems and develops a plan to meet the client's needs.

Qualifications

1. Ability to sell ideas and maintain good relationships with clients
2. Copywriting ability and some artistic knowledge, even though copywriters and artists usually carry out their ideas and suggestions
3. College graduate with liberal arts training or major in advertising, marketing, journalism, or business administration

Current Salary

$10,000 - $25,000/yr.

Promotional Opportunities

An account executive is considered a potential management person if he possesses an M.B.A. in marketing and gains experience.

Training Program

General overall knowledge of business and psychology and experience as junior account executive is helpful.

MARKETING AND DISTRIBUTION
Advertising

ART DIRECTOR

Job Summary

An Art Director supervises a group of varying levels of skill and diverse specializations. He develops the art aspect of an advertising plan which he turns over to a paste-up man for further refinement. He inspects and approves illustrative layouts.

Qualifications

1. Experience in copywriting or related work
2. A flair for spoken and written language
3. Artistic background plus knowledge of photography

Current Salary

$10,000 - $20,000/yr.

$20,000 - $25,000/yr. - senior art director

Promotional Opportunities

Possible advancement into management positions, though many prefer to remain in their positions

See also Commercial Artists - The Arts

MARKETING AND DISTRIBUTION
Advertising

COPY WRITER
(D.O.T. 132.088)

Job Summary

A Copy Writer creates headlines, slogans and text that attract buyers. He collects information about products and the people who use them; uses psychology and writing techniques to prepare copy especially suited for readers or listeners and for the type of advertising medium to be used; may specialize in copy that appeals to certain groups - housewives, businessmen, scientists, engineers - or even in copy that deals with items such as packaged goods or industrial products.

Qualifications

1. Bachelor's degree in Journalism or English
2. Flair for spoken and written language

Current Salary

$8,000 - $20,000/yr.

Training Program

College major in Journalism or English and on-the-job development

Promotional Opportunities

Advancement is dependent on ability and willingness to move to mainland if necessary.

MARKETING AND DISTRIBUTION
Advertising

MEDIA DIRECTORS - Print Media Buyer and Broadcast Media Buyer (D.O.T. 162.158)

Job Summary

These two Media Directors determine where and when advertising should be carried to reach the largest group of prospective buyers at the least cost.

Qualifications

Must have a vast amount of information about:

1. The cost of advertising in all media
2. The relative size and characteristics of the reading, viewing, or listening audience which can be reached in various parts of the country by specific publications, broadcasting stations, and other media
3. Computer potentials and limitations

Current Salary

$10,000 - $15,000/yr. Broadcast Media Director

$8,000 - $12,000/yr. Print Media Director

Training Program

On-the-job; account executives often move into media and make this a specialization.

Promotional Opportunities

Advancement possibilities are somewhat limited. One would probably be required to change firms or go to the mainland.

Employment Outlook

Print is becoming more and more important locally as Hawaiian firms are starting to expand to a larger market via national mainland publications. The salary of the print media buyer will increase as this happens.

MARKETING AND DISTRIBUTION
Advertising

MAIL CLERK
(D.O.T. 231.588)

Job Summary

The Mail Clerk sorts incoming mail for distribution and dispatches outgoing mail; sorts mail according to destination and type, such as returned letters, adjustments, bills, orders, and payments; stamps outgoing mail; mimeographs forms; handles inter-office correspondance.

Qualification

Little formal background is required

Current Salary

Usually part time; $400/mo. maximum

Training Program

High school graduate - entry level position

Promotional Opportunities

Excellent position to learn advertising business. One can move to traffic clerk position or to junior account executive.

MARKETING AND DISTRIBUTION
Advertising

PASTE-UP MAN
(D.O.T. 979.381)

Job Summary

A Paste-Up Man arranges and mounts illustrations and printed legends on paper according to the artist's layout; measures and marks paper according to artist's layout and customer's instructions to determine position of illustrations and printed legend, using ruler and drafting instruments; prepares type headings to specific size and style, using bench-type photolettering machine; develops and fixes photographs and headings and develops them on heated drum driers.

Qualifications

Artistic talent and commercial art training

Current Salary

$6,000 - $8,000/yr.

Training Program

Commercial art school

Promotional Opportunities

A paste-up man can, with ability, assume more and more responsibility and then move to the position of art director. While working as paste-up man, he should build up a portfolio of his work.

See also Paste-up artist - Communications
Commercial artist - The Arts

MARKETING AND DISTRIBUTION
Advertising

PRODUCTION MANAGER -
Print and Broadcast
(D.O.T. 979.131)

Job Summary

A Production Manager arranges to have the project converted into final form. He must be able to deal with printing, engraving, filming, recording and other forms involved in the reproduction of advertisements.

Qualifications

1. A thorough knowledge of various printing processes, typography, photography, paper, inks and related technical materials and processes
2. A knowledge of what suppliers can do

Current Salary

$8,000 - $10,000/yr.

Promotional Opportunities

Limited

Training Program

Acquired by experience with firm related to advertising such as publishing companies

MARKETING AND DISTRIBUTION
Advertising

TRAFFIC MANAGER

Job Summary

A Traffic Manager is responsible for the flow of a particular project from inception to finish. He coordinates the work that is being done for a client; insists that work be done on time; is responsible for completion of a project and must be able to point out the aspect that may not be progressing satisfactorily.

Qualifications

1. Must be able to locate the person or persons who are not producing their aspect of the project according to schedule
2. Must possess sufficient tact and ability to stimulate artists to complete their work if they are behind schedule

Current Salary

$400 - $500/mo.

Training Program

Mail clerk or assistant traffic manager

Promotional Opportunities

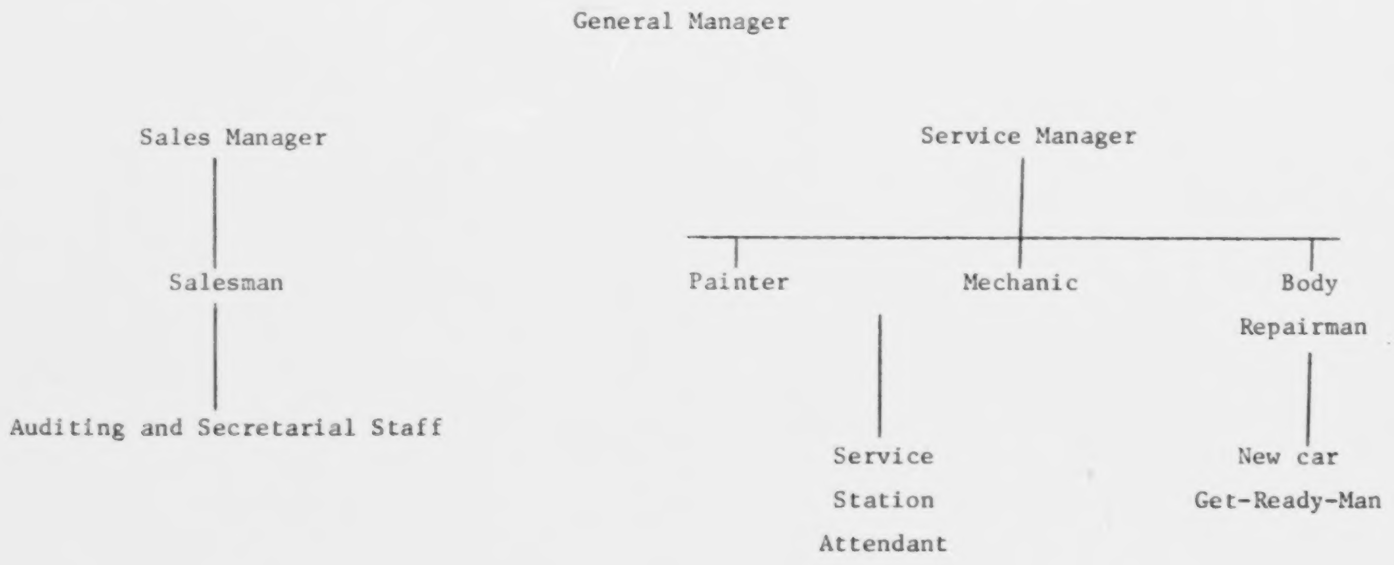
Excellent opportunity to move into various aspects of the advertising field because of the broad experience available to workers in this position

Automobile Sales and Service

Employment opportunity in automobile sales, service and repair is expected to grow moderately, because of the expanding demand for cars. Annual sales of new and used cars will rise during the next decade as a result of increases in driving age population, multicar ownership and income.

Employers, at times, furnish salesmen and other employees demonstrator cars free of charge. Some allow employees to buy or lease them at a discount. Many dealers provide paid vacations, life insurance, hospitalization, and surgical and medical insurance.

AUTOMOBILE SALES AND SERVICE


General Manager
Sales Manager
Salesman
Auditing and Secretarial Staff
Service Manager
Painter
Mechanic
Body Repairman
Service Station Attendant
New car Get-Ready-Man

MARKETING AND DISTRIBUTION
Automobile Sales and Service

AUTO BODY REPAIRMAN
(D.O.T. 807.381)

Job Summary

An Auto Body Repairman fixes the bodies of cars that have been damaged in accidents or by rusting. He examines vehicles and estimates cost of repairs; fills depressions with solder or other plastic material; removes excessively damaged fenders, panels, and grills, using wrenches and cutting torch, and attaches replacements by bolting or welding them in position; files, grinds, and sands repaired surfaces, using power tools and handtools.

Qualifications

1. Skilled with wrenches, cutting torches, and power tools
2. In good physical condition with good eye-hand coordination
3. Trainees are expected to accumulate tools as they gain experience.

Current Salary

Experienced repairmen earn $3 - $5/hr.

Training Programs

On-the-job; Honolulu Community College, Hawaii Community College, Kauai Community College, and Maui Community College

Employment Outlook

Qualified and experienced auto body repairmen are often in demand. This field should continue to grow as the number of vehicles is steadily increasing.

Further Information

Independent Garage Owners of America, Inc.
624 South Michigan Avenue
Chicago, Ill. 60605

MARKETING AND DISTRIBUTION
Automobile Sales and Service

AUTOMOBILE SALESMAN
(D.O.T. 280.358)

Job Summary

An Automobile Salesman sells new or used automobiles, compiling information on various car models and credit terms to achieve sale. He determines the kind of car the customer has in mind and the features that interest him; emphasizes the points that satisfy the customer's desires and stimulates his willingness to buy; arranges financing and insurance; develops and follows leads on prospective new customers.

Qualifications

1. Tact, being well groomed, ability to express oneself plus other personal qualities that make a good impression on customers
2. Self-confidence and determination to get through slow periods
3. Courses in public speaking, commercial arithmetic, English, business law, psychology and salesmanship for a good background
4. Possession of a selling license through registering with the Motor Vehicle Industry Licensing Board

Current Salary

Salary is based on commission.
An experienced full time salesman will make $125 - $250/week

Training Programs

Training is available on-the-job by working with the sales manager and other experienced salesmen. Training programs are also offered by automobile manufacturers.

Promotional Opportunities

Successful salesmen who have managerial ability may advance to assistant sales manager, sales manager or general manager.

Further Information

National Automobile Dealers Association
2000 K. St. NW
Washington, D.C. 20006

MARKETING AND DISTRIBUTION
Automobile Sales and Service

AUTOMOBILE SERVICE MANAGER
(D.O.T. 620.281)

Job Summary

An Automobile Service Manager confers with the customer to determine his service requirements and arranges for a mechanic to perform the work; writes the customer's request for services on a repair order; determines the nature of the trouble and then assigns the car to a particular mechanic; tells the customer what repairs are needed, their approximate cost, and how long the work will take.

Qualifications

1. Should be neat, courteous, even-tempered, an attentive listener, and a good conversationalist
2. Should be a qualified mechanic
3. Should have a driver's license
4. High School, Vocational School courses in automobile mechanics, commercial arithmetic, salesmanship, public speaking and English are helpful.

Current Salary

$3.60 - $4.60/hr.

Training Program

To fill this position, a person needs experience in automobile repair. He is often promoted from within.

Further Information

Automobile Service Industry Association
168 North Michigan Avenue
Chicago, Ill. 60601

MARKETING AND DISTRIBUTION
Automobile Sales and Service

AUTOMOBILE PAINTER
(D.O.T. 845.781)

Job Summary

An Automobile Painter repaints automotive vehicles, such as automobiles, buses and trucks; rough sands the vehicle to remove original paint; uses a spray gun to apply primer coats; fills small nicks and scratches that cannot be removed by sanding with automobile body putty; mixes paint to match the existing color of a repaired car.

Qualification

Good health, keen eyesight, a discerning color sense and a steady hand

Current Salary

$3.00 - $5.00/hr.

Promotional Opportunities

Shop foreman. With necessary capital, one can open his own shop.

Training Programs

Hawaii, Honolulu, Kauai and Maui Community Colleges

Employment Outlook

Experienced and qualified workers are needed with increasing use of automobiles.

Entry Level and Duties

1. Works with experienced painters for 3 years
2. Removes automobile trim, cleans and sands surfaces to be painted
3. Progresses to more complicated tasks such as using spray guns to apply primer coats and paint small areas

Additional Information

Automotive Service Industry Association
168 North Michigan Avenue
Chicago, Ill. 60601

MARKETING AND DISTRIBUTION
Automobile Sales and Service

NEW CAR GET-READY MAN
(D.O.T. 806.381)

Job Summary

A New Car Get-Ready Man inspects and services new automobile on delivery to the dealer and makes minor repairs or adjustments to place the vehicle in saleable condition. He inspects vehicle for obvious damage and missing major components; washes car and vacuums interior; installs optional equipment specified by the customer or the dealer; may spray undercoating material onto the underside of vehicle.

Qualifications

1. Good health and the strength to do occasional heavy lifting
2. Patience and ability to do a variety of different tasks well

Current Salary

$1.60 - $2.50/hr.

Training Program

This is frequently an entry level position. A Get-Ready Man continually masters more complicated types of installation.

Promotional Opportunities

This position furnishes valuable experience for an individual wishing to become a mechanic. One can move to sales as well.

Real Estate

The field of real estate is unique in Hawaii. Property values are inflated, much of the land is leased and there is a large proportion of part time salesmen. Employees in this field must work in the evenings and during weekends to meet the convenience of customers. Women will find increasing opportunities in real estate because of their familiarity with home features of special interest to housewives. Many openings are filled by mature workers who transfer from other kinds of sales work.

MARKETING AND DISTRIBUTION
Real Estate

MANAGER, APARTMENT HOUSE
(D.O.T. 186.168)

Job Summary

An Apartment House Manager coordinates activities of workers engaged in maintenance and repair of building and grounds; shows and rents apartments; completes lease form, outlining conditions and terms of occupancy; inspects and evaluates physical condition of building and arranges for necessary painting, repairs, and maintenance by staff members or by independent contractors.

Qualifications

1. Patience, friendliness, tact in dealing with tenants at all hours of day and night
2. Basic knowledge of business math and legal contracts

Current Salary

$250 - $350/mo. + apartment

Employment Outlook

There exists an occasional need for husbands and wives who can remain on the premises.

Training Program

Usually not extensive. Responsible and mature couples perform the necessary duties without extreme difficulty.

MARKETING AND DISTRIBUTION
Real Estate

REAL ESTATE SALESMEN AND BROKERS
(D.O.T. 250.358)

Job Summary

Real Estate Salesmen and Brokers rent, buy, and sell property for clients on a commission basis. They must be familiar with listings of properties for sale or rent and make telephone calls to prospective clients; draw up real estate contracts, such as deeds, leases and mortgages and negotiates loans on property.

Qualifications

1. Brokerage license
2. Ability to remember names and faces and be tactful and patient in dealing with prospective customers
3. A broad academic program in high school including such courses as English, mathematics, salesmanship, business loans, economics and public speaking
4. A pleasing personality, neat appearance, enthusiasm for the job, maturity, integrity, tact and patience in dealing with customers

Current Salary

$5,000 - $10,000/yr.
Beginners may earn less. Experienced and competent salesmen make more than $20,000.

Employment Outlook

Although this field is likely to remain highly competitive, persons with an aptitude for selling real estate will find that it offers many career opportunities in the future.

Training Programs

Walter N. Clark Real Estate School
Kinji Kanazawa Real Estate School
Realty Pacific Schools
Tara School of Real Estate
La Salle Extension

The beginner usually works under the direction of an experienced salesman or broker while he learns the practical aspects of his job.

Additional Information

Honolulu Board of Realtors
700 Bishop Street
Honolulu, Hawaii 96813

Promotional Opportunities

Sales manager in real estate firm
General manager
Real estate appraiser
Property management specialization

Insurance

Insurance offers job opportunities for people having very different educational backgrounds and talents. Some positions require much managerial and administrative experience and ability, but the great majority of workers are clerical and sales workers. Almost half of all insurance company employees are in jobs classified as clerical. The work of some professional and clerical employees is fundamentally the same as in other industries. Insurance companies and associations of companies and agents offer several kinds of training programs to help employees prepare for better jobs.

For further information concerning the insurance industry write:

Insurance Information Institute
110 William Street
New York, New York 10038

MARKETING AND DISTRIBUTION
Insurance

SALESMAN
(D.O.T. 250.258)

Job Summary

An Insurance Salesman sells insurance to new and present clients recommending the amount and type of coverage, based on analysis of person's circumstances; spends most of his time discussing different types of insurance policies with prospective customers; plans insurance programs that are specially tailored to person's needs; prepares reports, maintains records, and draws up list of prospective customers.

Qualifications

1. A thorough knowledge of insurance fundamentals to be able to evaluate his clients' insurance needs and explain policy terms clearly
2. A pleasant disposition and outgoing personality to inspire confidence in his ability to protect the customer's interest

Current Salary

After a few years' experience, $8,000 to $20,000/yr. A successful salesman can earn $30,000/yr.

Promotional Opportunities

Insurance agents who demonstrate sales ability and leadership qualities may be promoted to positions as sales or agency managers in district offices and to other managerial positions in home offices of insurance companies.

Mechanics and Repairmen

Mechanics and repairmen make up one of the fastest-growing occupational groups in the nation's labor force. This occupational field offers a variety of career opportunities to young men who are mechanically inclined and are willing to invest a few years in learning a trade.

Many employers consider an apprentice training program to be the best way to learn skilled maintenance and repair work. Individuals often receive three to six years of paid on-the-job training, supplemented at times by classroom instruction. Additional information is available in this Manual in the section on Training Program Opportunities, Apprenticeship.

Employers look for applicants who have mechanical aptitude and manual dexterity. People whose interests or hobbies include automobile repair, model building, or radio and television repair are appealing. Employers favor applicants who have had courses in mathematics, chemistry, physics, blue print reading, and machine shop.

Employment in maintenance and repair occupations as a whole is expected to increase rapidly through the 1970's.

MARKETING AND DISTRIBUTION
Mechanics and Repairmen

FURNITURE UPHOLSTERER
(D.O.T. 780.381)

Job Summary

A Furniture Upholsterer repairs and rebuilds upholstered furniture, using handtools and knowledge of fabrics and upholstery methods; removes covering, webbing, and padding; installs materials; may repair or refinish wooden frame.

Qualifications

1. Knowledge of sewing machine to seam cushions and join various sections of covering material
2. Good manual and finger dexterity
3. A flair for creative work
4. Ability to do occasional heavy lifting

Current Salary

Entry level: $1.60 to $2.25/hr.
Experienced: $3.00 to $5.00/hr.

Training Programs

The most common way to learn this trade is to complete an informal on-the-job training program in an upholstery shop. Prospective upholsterers are hired as helpers to perform simple jobs, such as removing old fabric, padding, and springs from furniture. As they gain experience, they perform more complex tasks. Inexperienced helpers who have initiative may become skilled upholsterers after about three years of on-the-job training.

Employment Outlook

Among the factors tending to increase requirements for furniture upholsterers are the growing expenditures for furniture and the higher levels of personal incomes. However, these factors will be offset by the rising cost of reupholstering furniture relative to replacing it.

For further information:

Upholdsterers International Union
of North America
1500 North Broad Street
Philadelphia, Pa. 19121

MARKETING AND DISTRIBUTION
Mechanics and Repairmen

MOTORCYCLE REPAIRMAN
(D.O.T. 620.281)

Job Summary

A Motorcycle Repairman repairs and overhauls motorcycles, motor scooters and similar motor vehicles; listens to the engine, examines the vehicle's frame, and confers with the customer to determine the nature and possible extent of malfunction or damage; dismantles the engine and repairs or replaces defective parts, such as magneto, carburetor, and generator.

Qualifications

1. Ability to use hand tools and familiarity with electronic equipment
2. Trainees are expected to accumulate tools as they learn.

Current Salary

$2.00 to $6.00/hr.

Promotional Opportunities

One can move to shop foreman. Generally, promotions take the form of salary increments.

Training Program

Beginners are often hired as helpers at minimum pay. Their salary increases as their skill and knowledge increase.

Employment Outlook

Motorcycles are particularly popular in Hawaii. Their repair and maintenance will furnish lucrative employment for ambitious and talented mechanics.

MARKETING AND DISTRIBUTION
Mechanics and Repairmen

OFFICE MACHINE REPAIRMAN
(D.O.T. 633.281)

Job Summary

The Office Machine Repairman repairs and services office machines, such as adding, accounting, and calculating machines, and typewriters; operates machines to test moving parts and listen to sounds to locate causes of trouble; disassembles machine and examines parts, such as gears, guides, rollers, and pinions for wear and defects, using micrometers; repairs, adjusts, or replaces parts, using handtools, power tools, and soldering and welding equipment; cleans and oils moving parts.

Qualifications

1. Mechanical aptitude
2. Knowledge of various office machines and brands
3. Tact and good humor to meet people in various offices

Current Salary

$2.00 - $3.75/hr.

Training Program

One usually begins as a trainee and acquires the necessary skills through on-the-job training, work experience, and instruction in manufacturer's training schools.

Employment Outlook

Office machines are increasingly being used for correspondence, for recording and processing transactions, and for duplicating and mailing information. Qualified servicemen are needed.

MARKETING AND DISTRIBUTION
Mechanics and Repairmen

SHOE REPAIRMAN
(D.O.T. 365.381)

Job Summary

A Shoe Repairman repairs or refinishes shoes, following customer specifications, or according to nature of damage, or style of shoe; replaces heels and soles using power and hand tools; restitches ripped portions or sews patches over holes in shoe uppers; may make specific alterations to orthopedic shoes; may repair belts, luggage, purses and other products made of materials such as canvas, leather, and plastic.

Qualifications

1. Knowledge of different kinds of materials
2. Ability to use power and hand tools

Current Salary

Entry level: $65 week

Experienced: $90 to $100 week

Employment Outlook

Several factors will tend to limit the growth in requirements for shoe repairmen. Much casual footwear cannot be repaired. Also, many shoes are being made of more durable, long-wearing materials and need repair less frequently.

Training Program

Most shoe repairmen are hired as helpers and receive on-the-job training in large shoe repair shops. Helpers having an aptitude for work and initiative can become qualified shoe repairmen after two years of on-the-job training.

For further information:

Shoe Service Institute of America
222 West Adams Street
Chicago, Illinois 60606

MARKETING AND DISTRIBUTION
Mechanics and Repairmen

WATCH REPAIRMAN
(D.O.T. 715.281)

Job Summary

The Watch Repairman cleans, repairs and adjusts watches and clocks; and may repair or replace malfunctioning parts of watches or clocks.

Qualifications

1. Knowledge of how to use specialized and precision instruments for cleaning and repair
2. Mechanical aptitude, finger dexterity, a sensitive touch, good vision and patience

Training Program

Available on-the-job or one may attend a watch repair school

Employment Outlook

Offsetting factors are present The popularity of small watches and the increasing use of more complicated timepieces will help to maintain a large volume of repair work. However, the increasing sales of inexpensive watches that cost no more to replace than to repair will operate to decrease amount of repair work available.

Current Salary

Entry level: $90 to $125/week

Experienced: $120 to $200/week

For more information:

American Watchmakers Institute
P.O. Box 11011
Cincinnati, Ohio 45211

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OFFICE AND CLERICAL

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OFFICE AND CLERICAL

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Posting-billing Machine Operator

Bookkeeping Machine Operator

Keypunch Operator-Verifier

NATIONAL TRENDS

Clerical occupations constitute more than twelve million jobs across the United States. Seven out of every ten positions are held by women and more than half of all girls who work after finishing high school go into clerical work. The routine educational requirement is a minimum of high school graduation. Graduates who have had instruction in business subjects are considered by most employers to be particularly well qualified. Some companies work with schools on programs which provide part time employment during school. The Manpower Development and Training Centers also have a training program. Most clerical workers are required to have good reading comprehension, a knowledge of spelling and grammar, and some arithmetic ability.

Many types of clerical work offer good chances for advancement. Advancements are often made from within the company. In this field there can be a great amount of horizontal job movement as well as upward movement, but opportunities for advancement are enhanced by a good educational background such as some business school or community college experience. Some clerical positions are filled by college graduates who will be considered for professional or administrative positions later.

Across the board, clerical occupations are expected to rise moderately through the 1970's. More than 325,000 new jobs will be available each year. This figure does not include those positions vacated by retirement or other reasons. In clerical work there is a high turnover because many women leave their jobs after a few years to raise a family. Although some clerical workers will be affected by automation, many are unlikely to be affected by it. For example, secretaries, receptionists, bill collectors and others who deal with the public and who are required to use initiative and judgment are not likely to be replaced.

Most office employees work a forty-hour week, but some work as little as thirty-five hours. They generally receive one or two weeks of paid vacation after working one year. Life insurance, hospitalization, medical insurance, sick leave, and retirement plans are also common.

LOCAL TRENDS

Every business in Hawaii requires some skill in office work, the one man operations as well as the large business firms and government. Employment outlook in the field of office and clerical work is one of growth for the immediate future because Hawaii's economic future is bright. According to Lt. Governor George Ariyoshi, when trade between the United States and the People's Republic of China begins, Hawaii will be in a prime location to establish import business. With the establishment of more foreign trade zones, Hawaii could in reality become the "hub of the Pacific." Along with the increase in Hawaii's importance will be an increase in the number of jobs available.

Places of employment are many and varied for clerical and office workers, the jobs ranging from agriculture affiliation to the federal government. The minimum requirements for most jobs are (1) a high school diploma and (2) ability to type. A year or two at a business school or community college is usually beneficial but an important fact to remember is that experience counts, too. The time spent in school could sometimes be used for on-the-job training if the employer has a good training program. Post high school education is not always required, but is sometimes helpful.

Persons looking for an occupation where they can get rich quick should consider other areas. The salary range is basically from $300 to $1200 with higher salaries in some managerial positions. Although the pay is often not outstanding, the working conditions are usually good and jobs are more stable than those that pay more in other areas, such as construction. Most of the jobs are for inside work.

In looking through the job descriptions, one should notice the listings of promotional opportunities. Some of these listings are vertical and some are horizontal. This means some are a "step up the ladder" and some are a "step sideways" which will allow one to change jobs more easily if he does not like what he is doing.

The jobs listed are a representative sampling only. They were obtained from the Hawaii Employer's Council publication "Pay Rates in Hawaii." They do not constitute all of the entry level job positions in clerical and office work in Hawaii, but they cover the general area adequately. To list all jobs would be impossible.

LOCAL EDUCATIONAL PROGRAMS

Below is a listing of schools in Hawaii that provide training for clerical and office workers. Information about their program is available at the a addresses below.

Cannon's College of Commerce
33 South King Street
Honolulu, Hawaii 96813

Honolulu Business College
1111 Bishop Street
Honolulu, Hawaii 96813

Kenway School of Accounting
1019-A University Avenue
Honolulu, Hawaii 96814

Midpac Training Institute
445 North King Street
Honolulu, Hawaii 96817

National Business Training School
1032 Alakea Street
Honolulu, Hawaii 96813

Honolulu Community College
874 Dillingham Boulevard
Honolulu, Hawaii 96817

Kapiolani Community College
620 Pensacola Street
Honolulu, Hawaii 96814

Leeward Community College
96-045 Ala Ike
Pearl City, Hawaii 96784

Hawaii Community College
1175 Manono Street
Hilo, Hawaii 96720

Maui Community College
310 Kaahumanu Avenue
Kahalui, Maui, Hawaii 96732

Kauai Community College
R. R. #1, Box 216
Lihue, Kauai, Hawaii 96766

LOCAL EDUCATIONAL PROGRAMS

School	Course	Length	Cost
Cannon's College of Commerce	Stenographic	45 wks	$ 700
	Professional Secretary	63 wks	980
	Executive Secretary	72 wks	1120
	Legal Secretary	72 wks	1120
	Medical Secretary	72 wks	1120
	Court Reporter	90 wks	1400
	IBM Keypunch-typist	45 wks	700
	Jr. Accounting	45 wks	700
	Higher Accounting	72 wks	1120
	Business Administration	72 wks	1120
	Airline Secretary	72 wks	1120
	Fashion Secretary	72 wks	1120
	Hotel Front Office Management	36 wks	560
	Secretarial Data Processing	63 wks	1000
	Data Processing	72 wks	1575
	Account-Computer Program	45 wks	1025
	Computer Programming	27 wks	720
	Fashion Merchandising	27 wks	500
	Airline Operations & Reservations	27 wks	500
	PBX Receptionist	27 wks	420
	IBM Keypunch	60 hrs	125
Honolulu Business College	Card punch and Verifier	4 wks	125
	Data Processing	18 wks	250
	Automated Systems	9 wks	125
	Data Proc-Bus Administration	72 wks	1900
	Data Proc-Bus Accounting	45 wks	1225
	Automation Bus Account	36 wks	775
	IBM Keypunch Typist	45 wks	875
	Stenographic	45 wks	
	Secretarial	63 wks	
	Executive Secretarial	72 wks	
	Medical Secretarial	72 wks	
	Legal Secretarial	72 wks	
	Jr. Accounting	45 wks	
	Higher Accounting	72 wks	
	Business Administration	72 wks	
	Clerical Filing	45 wks	
Kenway School of Accounting	Accounting 234	240 hrs	595
	Accounting 235	200 hrs	495
	Accounting 231	36 hrs	75

School	Course	Length	Cost
Midpac Training Institute	IBM Computer Programming	750 hrs	$1495
	IBM Computer Operator	500 hrs	995
	IBM Keypunch-Verifier	90 hrs	285
	Cashier	90 hrs	165
	Hotel Front Desk	90 hrs	185
	Data Processing	150 hrs	595
National Business Training School	General Office Clerk	320 hrs	348
	Clerk-Typist	320 hrs	348
	Office Machines	80 hrs	150
	Office Bookkeeper	360 hrs	348
	Typing	120 hrs	150
	Retail Cashier	120 hrs	174
	Gregg Shorthand Review	80 hrs	150

OFFICE AND CLERICAL

JUNIOR TYPIST
(D.O.T. 203.588)

Job Summary

A Junior Typist types material from copy or rough draft; types or hand posts data or statistical tabulations from clearly established sources or copy; proofreads typewritten material for errors; operates other standard office machines; checks a variety of material for accuracy; sorts and files materials.

Qualifications

1. Ability to do repetitive typing and simple routine clerical work under immediate supervision or in accordance with prescribed procedures
2. Ability to type
3. High school graduation preferred

Promotional Opportunities

1. Clerk
2. Senior Typist

Places of Employment

1. Trade
2. Service
3. Manufacturing
4. Government

Current Salary

$295 to $615
Average $400

Employment Outlook

There are periods when there is a lack of applicants with adequate typing skills. Rapid growth rate is expected through 1975.

SENIOR TYPIST
(D.O.T. 203.588)

Job Summary

A Senior Typist types material in final form when it involves combining material from several sources; types technical or complex material from rough draft where numbers and technical terms appear frequently; transcribes letters and other material from a dictating machine; types from letters and selects material to be included according to circumstances; cuts mimeograph and other stencils and checks and corrects errors in grammar, spelling and form; plans and lays out tables to maintain uniformity and balance in spacing; may post data to records; may sort and file material and perform a variety of other responsibilities related to clerical duties such as classifying and filing records and correspondence, keeping detailed records, etc.

Qualifications

1. Ability to do sustained typing of technical or complex material, form letters, or stencils where form, grammar, and accuracy are important
2. Experience as Junior Typist

Promotional Opportunities

1. Clerk
2. Secretary

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Finance
6. Federal government

Current Salary

$325 to $705

Average $550

Employment Outlook

Balance between supply and demand, but rapid growth expected to 1975.

OFFICE AND CLERICAL

SECRETARY
(D.O.T. 201.368)

Job Summary

A secretary takes and transcribes dictation involving business terminology and recurrent specialized vocabulary with speed and accuracy; types letters, reports other material from rough draft; schedules appointments and gives information to callers; locates and attaches appropriate file to correspondence to be answered by superior; answers telephone and routes calls or takes messages, reads and routes incoming mail and answers routing correspondence independently; has thorough knowledge of business and office procedure and specific policies, using such knowledge in performing secretarial duties; gathers, assembles, and refines material and data; takes, transcribes and maintains minutes of meetings and conferences; may establish and maintain files and have material available for followup.

Qualifications

1. Ability to provide stenographic and secretarial service for one or more individuals and relieve them of routine office duties
2. Able to work under general supervision
3. Business school or junior college background helpful

Promotional Opportunities

1. Private Secretary

Current Salary

$347 to $920

Average--$585

OFFICE AND CLERICAL

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

SECRETARY (cont)

Employment Outlook

There is a moderate demand for legal secretaries. The market for other secretaries is stable. Some job shortages exist because of disappointment in pay expectations. Rapid growth rate is expected until 1975.

OFFICE AND CLERICAL

PRIVATE SECRETARY
(D.O. T. 201.368)

Job Summary

A Private Secretary takes and transcribes dictation involving work of a confidential nature; screens telephone calls, as well as personal and confidential mail and reading matter for the executive; schedules appointments and gives information to, or directs callers to proper departments; independently answers routine correspondence or replies according to general instructions from the executive; secures information and data from various sources, compiling it for the executive; establishes and maintains the executive's confidential files; arranges for and notifies persons of meetings and conferences; takes and transcribes notes for minutes of meetings including confidential matters; may make minor administrative decisions requiring initiative, judgment, knowledge of company practices, policy, and organization.

Qualifications

1. Must be able to provide stenographic and secretarial services for a president, vice-president, treasurer or an administrator of an organization
2. Must be knowledgeable of superior's administrative duties
3. Must be able to work under general supervision and possibly supervise other clerical workers working for the same executive
4. Experience and training equivalent to that of a secretary

Promotional Opportunities	Current Salary
Promotion is not very likely since this position is one of the higher positions for clerical workers	$340 to $1,090 Average $756

OFFICE AND CLERICAL

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

PRIVATE SECRETARY (cont'd)

Employment Outlook

Presently a moderate demand for qualified persons

OFFICE AND CLERICAL

FILE CLERK
(D.O.T. 206.388)

Job Summary

A File Clerk receives correspondence, documents, policies and other forms for filing; performs clerical work in searching and obtaining information contained in files; pulls requested files of dailies or other forms; keeps records of materials removed; stamps material received, traces missing file folders and enters coverage and other data on records; may file according to a cross-reference system; may be designated according to subject matter field; may handle mail or supply distribution.

Qualifications

1. Entry level requirements: ability to file, do minor typing and clerical duties
2. Ability to work under supervision
3. High school education with business education background

Promotional Opportunities

1. Junior Clerk
2. Clerk
3. Senior Clerk

Current Salary

$277 to $693

Average $372

Places of Employment

1. Trade
2. Service
3. Finance

Employment Outlook

Outlook is good because of the great turnover rate. Beginning salary is not as much as is often expected.

OFFICE AND CLERICAL

JUNIOR CLERK
(D.O.T. 209.388)

Job Summary

A Junior Clerk files coded material according to alphabetical or numerical classifications; distributes and collects completed forms; posts to records where data to be selected are clearly indicated; makes simple arithmetic computations in order to check requisitions, invoices or other material; answers the telephone and takes or relays messages and gives information; may use an adding machine; may use a typewriter, operate a mimeograph or multilith machine.

Qualifications

1. Ability to perform routine and simple clerical work under immediate supervision or in accordance with clearly prescribed objectives
2. High school graduation generally preferred with knowledge in business education

Promotional Opportunities

1. Clerk
2. Senior Clerk

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Current Salary

$277 to $693

Average $400

Employment Outlook

Some jobs remain unfilled because of salary expectations.

OFFICE AND CLERICAL

CLERK
(D.O.T. 209.388)

Job Summary

A Clerk reviews forms, records, and reports for accuracy, completion, and conformance with standards; makes written, personal, or telephone follow-ups to secure information; keeps continuing records; sorts files and indexes, and pulls records and documents; operates standard office machines; may assist others in filling out standard forms; may reconcile transactions to predetermined totals.

Qualifications

1. Ability to perform a variety of clerical work in reviewing, refining, processing, preparing, and checking forms, records, and reports
2. Ability to work under general supervision
3. High school education with knowledge in business math, typing, and English. Business school or junior college education is helpful.

Promotional Opportunities

1. Senior Clerk
2. Secretary

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Current Salary

$256 to $903

Average $475

Employment Outlook

There are enough clerks to meet the demand, but mismatching of actual salary and salary expectations causes jobs to remain unfilled. Rapid rate of growth to 1975.

OFFICE AND CLERICAL

SENIOR CLERK
(D.O.T. 209.388)

Job Summary

A Senior Clerk secures and provides information on request after deciding what can be told; reads incoming mail and composes replies after obtaining necessary facts and information; refers unusually difficult requests to a supervisor; compiles tabular material and information by researching records and extracting appropriate facts; may contact officials or conduct extensive searches through files and records for information; may set up files and records, may supervise clerical workers.

Qualifications

1. Ability to perform a variety of difficult clerical tasks
2. Ability to perform routine administrative tasks in an office
3. The application of judgment and initiative with an absence of day to day supervision
4. Experience as junior clerk

Promotional Opportunities

Secretary

Current Salary

$325 to $1,006

Average $585

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Employment Outlook

Market is generally balanced but there is some discrepancy between expected pay and actual wages.

CLERK STENOGRAPHER
(D.O.T. 202.388)

Job Summary

A clerk stenographer takes and transcribes dictation from one or more individuals; types letters, statements, statistical tabulations, technical and administrative reports and other material from rough draft; sorts and files correspondence, record forms or other material; performs a variety of clerical work involving review, refining, processing, preparation and checking of forms, records and reports; may take minutes of meetings and transcribe them; may prepare reports which require the compilation of data from a number of sources; may set up, revise and supervise the maintenance of filing systems; may instruct others in the routine performance of clerical tasks.

Qualifications

1. Ability to take and transcribe dictation at an acceptable rate of speed from one or more individuals
2. Ability to perform journeyman level clerical work
3. Business school or junior college helpful

Promotional Opportunities

1. Senior Clerk
2. Secretary

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Current Salary

$325 to $828

Average $525

Employment Outlook

Strong demand for qualified personnel. There is expected to be rapid growth through 1975.

PERSONNEL CLERK
(D.O.T. 205.368)

Job Summary

A Personnel Clerk explains rules and regulations covering the full range of the personnel management program; applies knowledge of rules, regulations, policies, and decisions affecting the various types of personnel actions; establishes and maintains personal record files and maintains strict security of information concerning employees; may advise new hires of their eligibility to leave, employee fringe benefits; audits various personnel forms for completeness, accuracy and conformance with applicable laws, rules, regulations and established procedures; receives and screens callers in person and over the phone, may supervise the work of others.

Qualifications

1. Ability to perform responsible, general clerical work requiring knowledge and application of pertinent formalized personnel rules, regulations, procedures and program requirements in a large or fairly large organization at the department level
2. Education at junior college level. Military experience in personnel procedure is helpful

Promotional Opportunities

1. Personnel Officer
2. Senior Clerk

Places of Employment

1. Agriculture
2. Trade
3. Service
4. Finance
5. Government

Current Salary

$364 to $861

Average $615

Employment Outlook

There is a surplus of applicants due to veterans entering the job market.

NUMBERS CLERK
(D.O.T. 219.488)

Job Summary

A Numbers Clerk collects and compiles data on production and sales; makes reports on such matters and volume of production, inventory or volume of sales; computes and compiles simple arithmetic data for periodic reports, taking data from regular bookkeeping and accounting records; checks sources of material unusual in reports; utilizes speed and accuracy in making numerical determinations; follows well-defined mechanical procedures; and calculator; performs other clerical duties.

Qualifications

1. Knowledge of collection, refinement, processing, and tabulation of various data according to prescribed procedures
2. High school graduation and ability to work with figures. Business education is sometimes preferred

Promotional Opportunities

1. Accounting Clerk
2. Clerk
3. Bookkeeper

Current Salary

$325 to $960

Average $550

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance

Employment Outlook

A balance exists at present, but employment is expected to increase rapidly to 1975.

PAYROLL CLERK
(D.O.T. 215.488)

Job Summary

A Payroll Clerk determines time worked from time cards or job sheets or receives notification of time worked from supervisors; computes wages and enters data on payroll records; computes tax, insurance and other deductions to determine net pay; uses such office machines as typewriter, adding machine and calculator, may make out pay checks or cash; may also use checkwriters.

Qualifications

1. Ability to perform clerical work with numbers in preparing company payroll and maintaining records of withheld wages
2. High school training and some post high school work is helpful

Promotional Opportunities

1. Numbers Clerk
2. Accounting Clerk

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Current Salary

$350 to $885

Average $565

Employment Outlook

Moderate increase

ACCOUNTING CLERK
(D.O.T. 210.368)

Job Summary

An Accounting Clerk performs a variety of calculating, posting, and typing duties to compile data for subsidiary ledgers, such as accounts receivable and accounts payable; utilizes debit and credit knowledge; examines and codes invoices and makes accounting distribution requiring judgment and experience making proper allocations; determines and audits account designations; distributes charges and credits; assists in preparing, adjusting and closing journal entries; may prepare financial records.

Qualifications

1. Ability to work under general supervision of bookeeper or accountant
2. Ability to post and maintain a variety of account records relating to an establishment's business transactions. Work requires knowledge of double entry bookeeping and company accounting procedures.
3. Junior college or business school education and experience as clerk is helpful

Promotional Opportunities

1. Bookkeeper
2. Accountant

Places of Employment

1. Transportation
2. Utilities
3. Transportation
4. Trade
5. Service
6. Manufacturing
7. Finance
8. Government

Current Salary

$310 to $927

Average $552

Employment Outlook

Stable. Increase is expected to be moderate to 1975.

ACCOUNTANT
(D.O.T. 210.368)

Job Summary

An accountant examines a variety of financial statements for completeness, external accuracy, and conformance with uniform accounting classifications or other general requirements. He reconciles reports and financial data with financial statements already on file, and points out apparent inconsistencies or errors. He carries out assigned steps in an accounting analysis such as computing standard ratios. He prepares a simple financial statement, prepares charts, tables and other exhibits to be used in reports; assembles and summarizes accounting literature on a given subject; and may perform some non-professional tasks for training purposes.

Qualifications

1. At the entry level he must be able to apply the principles, theories, and concepts of accounting to a specific system under the close supervision of an experienced accountant.
2. Generally required is a level of education equivalent to two years of junior college or business school. Some positions require a four-year degree in accounting.

Promotional Opportunities	Current Salary
1. Senior Accountant	$414 to $1,000
2. Supervisor (Office)	Average $681

OFFICE AND CLERICAL

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Manufacturing
6. Finance
7. Government

ACCOUNTANT (cont'd)

Employment Outlook

Moderate increase in the near future as economy returns to normal

BOOKKEEPER
(D.O.T. 210.388)

Job Summary

A Bookkeeper keeps a complete set of records of bookkeeping transactions; verifies and enters details of transactions in accounts and cash journals; summarizes and balances totals to insure accuracy; prepares periodic trial balances and other information; is responsible for details on separate ledgers and transferral of data to general ledger; classifies, verifies and posts individual items in proper journal register, cash or record book. He journalizes transactions where judgment is involved as to account affected; determines proper accounting entries; maintains a general ledger from the total of each type of transaction; periodically balances subsidiary accounts and the general ledger. He prepares accounting reports, balance sheets and income statements; may prepare payrolls. He may supervise other clerical employees performing tasks auxiliary to the records keeping function.

Qualifications

1. Ability to keep a complete and systematic set of records and bookkeeping transactions of a business establishment according to prescribed procedure
2. Experience as accounting clerk or numbers clerk
3. Junior college and/or business school helpful

Promotional Opportunities	Current Salary
Office Manager	$400 to $1,155
	Average $683

OFFICE AND CLERICAL

Places of Employment

1. Agriculture
2. Utilities
3. Trade
4. Service
5. Manufacturing
6. Finance

BOOKKEEPER (cont'd)

Employment Outlook

Current balance between supply and demand, but there is a shortage of qualified applicants. Moderate increase to 1975.

OFFICE MANAGER BOOKKEEPER
(D.O.T. 210.388)

Job Summary

An Office Manager Bookkeeper coordinates office work, schedules work assignments, assuring provision for adequate clerical services, and hires, fires, and trains clerical workers; establishes office rules and is responsible for the quality of material prepared by the office; supervises the establishment and maintenance of the filing system, adjusts work schedules and vacations of subordinates providing for rush jobs without disrupting usual service, purchases equipment and supplies of the office, arranges for the repair and maintenance of office equipment; reviews work of other clerical employees, keeps a complete set of bookkeeping transactions of the establishment, verifies and enters details of transactions in account and cash journals, prepares accounting reports, balance sheets and income statements, summarizes details of separate ledgers and transfers data to general ledger, may arrange for building maintenance and repair services, may obtain credit rating from customers and may prepare payroll.

Qualifications

1. Experience as bookkeeper and the ability to manage office services of an establishment supervising a staff of employees engaged in clerical tasks
2. Experience in maintaining a complete set of records of bookkeeping transactions for an establishment according to prescribed procedures
3. Two-year business school or community college education helpful, but not required

Promotional Opportunities

1. Transfer to larger departments or businesses
2. Movement to higher levels of management

Places of Employment

1. Trade
2. Service
3. Finance

Current Salary

$400 to $1,400

Average $836

Employment Outlook

Presently a balance between supply and demand

OFFICE AND CLERICAL

POLICY AND ENDORSEMENT TYPIST
(D.O.T. 203.588)

Job Summary

A Policy and Endorsement Typist types policies, endorsements, renewal solicitation forms and bills from rated applications, endorsement request forms, dailies being renewed, and typed policies; assembles the necessary forms, checks clarity and completeness of information, adds internal processing coding, groups by type of policy flexograph with program tape or electric typewriter; may type bills for certain policies; may perform other routine office clerical functions as required.

Qualifications

1. High school education with background in English
2. Typing ability that will enable person to do sustained typing of various forms obtaining needed information from available forms and records

Promotional Opportunities

1. Senior Typist
2. Rating Clerk
3. Claims Clerk

Current Salary

$315 to $515

Average $377

Places of Employment

Generally in finance institutions such as insurance firms and banks

Employment Outlook

Stable now, but there is always a turnover of personnel. Typing skills can always be used in a wide variety of jobs.

JUNIOR CLAIMS CLERK
(D.O.T. 299.608)

Job Summary

The junior claims clerk creates files for reports of accidents, prepares release forms and claims drafts; checks classification on insurance dailies for industrial reports; makes up photostats as required; pulls office files for adjustors; checks classifications on insurance dailies for Employers Compensation reports; may do phone checking of costs for claims of minor nature; may use a typewriter.

Qualifications

1. Ability to perform routine clerical claims work under immediate supervision
2. High school education preferred

Promotional Opportunities

1. Senior Claims Clerk
2. Rating Clerk

Current Salary

$325 to $505

Average $400

Places of Employment

Finance

Employment Outlook

The field is small and stable.

SENIOR CLAIMS CLERK
(D.O.T. 299.688)

Job Summary

A Senior Claims Clerk receives reports from agent or insured, checks coverage on daily, marks date of loss, makes out accident report form; obtains claim information from insured or designated persons to settle claim with insurance carrier; discusses claim with insured and reports damage to insurance company; types claim forms and related reports, does phone checking for costs of claims of a minor nature; pays claims and closes files after receiving adjustor's final report.

Qualifications

1. Ability to obtain claim information from insured or designated persons to settle claims with insurance carriers and to complete claim reports
2. Experience as junior claims clerk

Promotional Opportunities

1. Underwriter
2. Claims Adjustor

Current Salary

$390 to $690

Average $515

Places of Employment

Finance

Employment Outlook

The field is small and difficult to enter at this level.

RATING CLERK INSURANCE
(D.O.T. 219.338)

Job Summary

A Rating Clerk Insurance examines applications for factors such as age, accident, experience, or building type in order to determine whether applicant is a good risk; refers more complex calculations to underwriters; may perform related clerical work related to the acceptance, typing, filing and the conducting of correspondence regarding insurance; may perform other duties as required.

Qualifications

1. Ability to use rate books, complete and check premiums on policies and endorsements, and check new and renewal applications for business
2. Knowledge of general clerical work is helpful
3. High school education is preferred

Promotional Opportunities

1. Endorsement typist
2. Underwriter

Places of Employment

Finance

Current Salary

$300 to $650

Average $440

Employment Outlook

Moderate increase expected during the next three years

OFFICE AND CLERICAL

ORDER CLERK
(D.O.T. 249.368)

Job Summary

An Order Clerk receives over the counter telephone or mail orders; gives or sends price quotations; prepares standard order sheet listing items on an order; checks prices and quantities of items from a catalog or list; may keep and order file for follow-up purposes and may check a customer credit rating with the credit department.

Qualifications

1. Ability to receive and prepare orders for material or merchandise in accordance with prescribed procedures
2. High school education preferred

Promotional Opportunities

1. Credit Clerk
2. Supervisor

Current Salary

$365 to $936

Average $575

Places of Employment

1. Trade
2. Manufacturing

Employment Outlook

Rapid increase expected to 1975

OFFICE AND CLERICAL

CREDIT CLERK
(D.O.T. 249.368)

Job Summary

A Credit Clerk interviews customers applying for charge accounts and small loans and obtains a credit history; verifies this information by checking with credit organizations and references listed by applicant; determines credit limit following specific instructions and prescribes procedures based on applicant's assets and the ability to pay; notifies customer of acceptance or rejection of credit; may accept or reject accounts according to prescribed standards and refers more difficult cases to credit manager; may keep record for file of credit transactions and payments and send letters to customers having delinquent accounts; may keep informed on all transactions that affect credit rating of customers; may make adjustments on incorrect credit charges and grant extensions of credit on overdue bills.

Qualifications

1. Underwriter
2. Credit Manager

Places of Employment

1. Trade
2. Finance

Current Salary

$290 to $863

Average $510

Employment Outlook

Rapid increase of this area through 1975

OFFICE AND CLERICAL

UNDERWRITER
(D.O.T. 169.188)

Job Summary

An Underwriter provides quotations on specific coverages; investigates unusual coverage questions and needs, and prepares appropriate endorsements or policies; provides specific information to producers, insured applicants, rating bureau, individual companies, etc. by verbal or written communication.

Qualifications

1. Must be able to review applications, requests for endorsement, and expiring policies for loss record, acceptability, and coverage accuracy
2. Must be able to calculate premiums for new and renewal business
3. High school graduation, with courses in math and English, plus on-the-job training

Promotional Opportunities

1. Employment in a larger firm
2. Claims Adjustor

Places of Employment

Finance

Current Salary

$435 to $885

Average $645

Employment Outlook

Employment growth is uncertain at this time. However, it is predicted that there will be a gradual increase in this field over the next few years.

OFFICE AND CLERICAL

CLAIMS ADJUSTOR
(D.O.T. 241.168)

Job Summary

A Claims Adjustor examines claims, gathers any missing data and contacts doctors, hospitals, witnesses, and claimant for information; recommends payment of claims, and recommends litigation--referring more difficult cases to division manager or examiner, attends police court hearings; maintains records of claims handled, rates dispositions of individual cases, and prepares reports for submission to insurance companies or agents; may confer with claim attorney on minor claims requiring some litigation.

Qualifications

1. Knowledge of claims investigation, estimation of damages, and settling claims out of court
2. Experience in insurance claims

Promotional Opportunities

1. Underwriter
2. Office Manager

Current Salary

$500 to $927

Average $762

Places of Employment

Finance

Employment Outlook

Small field with very few openings

CASHIER
(D.O.T. 211.368)

Job Summary

A Cashier receives payment that can be verified against bills, statements, or price tag; makes change and cashes checks; keeps a record of cash transactions, prepares daily cash summaries and balances cash at the end of the day's business; issues receipts; may prepare cash for deposit; may prepare deposit slips and make bank deposits; may use adding machine or coin counter; may cash payroll checks.

Qualifications

1. Must be able to receive and count cash in simple routine over-the-counter transactions where amounts to be collected are clearly stated
2. High school graduation preferred

Promotional Opportunities

1. Teller
2. Clerk

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Manufacturing
6. Finance
7. City and State government

Current Salary

$300 to $800

Average $470

Employment Outlook

Outlook is balanced. Unfavorable working conditions. Moderate growth rate to 1975.

OFFICE AND CLERICAL

TELLER
(D.O.T. 212.368)

Job Summary

A Teller receives checks and cash for deposit; enters deposits in passbooks, issues receipts; cashes checks and pays out monies upon verification of signatures and customer balances; orders supply of cash to meet daily needs; counts incoming cash and prepares cash for shipment; operates various office machines; may receive loan payments; may compute charges, exchange travelers checks and savings bonds; may open new accounts and compute interests and discounts.

Qualifications

1. Ability to receive and pay out money and keep records of money and negotiable instruments involved in various bank and savings and loan transactions
2. High school education preferred

Promotional Opportunities

1. Cashier
2. Bank Officer

Places of Employment

Finance

Current Salary

$317 to $670

Average $450

Employment Outlook

Balance of supply and demand. Current mismatching of salary offered and salary expected.

OFFICE AND CLERICAL

SWITCHBOARD OPERATOR RECEPTIONIST
(D.O.T. 237.368)

Job Summary

A Switchboard Operator Receptionist operates a switchboard to receive and relay incoming, outgoing, and inter-office calls; takes and routes calls and messages to proper persons; keeps records of calls and charges; receives and announces visitors; gives routine information; is required to type and perform clerical work as assigned, such as filing, checking bills, and opening and sorting mail.

Qualifications

1. Ability to operate a telephone switchboard handling incoming, outgoing and interoffice calls
2. Ability to act as a receptionist and perform routine clerical work
3. High school education preferred, business education helpful

Promotional Opportunities

1. Secretary
2. Switchboard Operator
3. Receptionist

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Manufacturing
6. Finance

Current Salary

$285 to $720

Average $440

Employment Outlook

There is an adequate supply of switchboard operators, but some with typing skills are needed.

OFFICE AND CLERICAL

SWITCHBOARD OPERATOR
(D.O.T. 235.862)

Job Summary

A Switchboard Operator operates a switchboard to receive and relay incoming, outgoing, and inter-office calls; keeps records of calls and charges; receives messages; supplies information; may place long distance calls, may check bill statements.

Qualifications

1. Ability to operate a telephone switchboard and keep records of long distance calls. May perform minor clerical work.
2. High school education preferred

Promotional Opportunities

1. Switchboard Operator Receptionist
2. Secretary

Current Salary

$295 to $800

Average $495

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Manufacturing
6. Finance
7. State and County government

Employment Outlook

Stable at present time, but moderate increase expected between now and 1975.

DUPLICATING MACHINE OPERATOR
(D.O.T. 207.782)

Job Summary

A Duplicating Machine Operator, under direct supervision, runs mimeograph, photocopiers, duplicators, and automated offset machines; may prepare simple masters or photomat copiers for masters; inks and adjusts machines, sets margins, adjusts paper feeders and ink ducts, cleans impression blankets and puts machine in operation; performs cleaning and maintenance of equipment; operates stapling, folding, paper drilling, collating, paper cutting and other accessory equipment; may operate microfilm, laminating, addressograph machines; may do filing, posting, typing and other similar clerical work.

Qualifications

1. High school education preferred
2. Ability to operate one or more types of duplicating machines in the reproduction of reports, office forms, documents, circulars and tabulations

Promotional Opportunities

1. Booking Machine Operator
2. Posting-Billing Machine Operator

Places of Employment

1. Trade
2. Service
3. Finance
4. Federal government

Current Salary

$330 to $615

Average $470

Employment Outlook

Very few jobs are available at the present time. This situation is expected to continue as this is a low skill entry area.

POSTING BILLING MACHINE OPERATOR
(D.O.T. 215.388)

Job Summary

A Posting Billing Machine Operator transcribes information, such as customers' names and addresses; summarizes purchases or services rendered; calculates totals, net amounts, and discounts; checks invoices for accuracy; prepares bills and/or statements to be sent to customers showing an itemized account of amount owed using computing type billing machine; may insert bills in envelopes and mail them.

Qualifications

1. Ability to operate a posting or billing machine under immediate supervision or in accordance with clearly prescribed procedures in preparing statements, bills, and invoices
2. High school education preferred

Promotional Opportunities

1. Bookkeeping Machine Operator
2. Duplicating Machine Operator
3. Clerk

Current Salary

$300 to $728

Average $484

Places of Employment

1. Trade
2. Service
3. Manufacturing

Employment Outlook

There is currently a balance between supply and demand.

OFFICE AND CLERICAL

BOOKKEEPING MACHINE OPERATOR
(D.O.T. 215.388)

Job Summary

A Bookkeeping Machine Operator operates a bookkeeping machine with or without a typewriter keyboard in posting one phase or section of bookkeeping records; tallies and balances postings, checks extensions; may post to one section as accounts payable, payroll, customer accounts, cost distribution, expense distribution or inventory control; may check or assist in the preparation of trial balances and prepare control sheets for accounting to specified procedures.

Qualifications

1. Ability to operate bookkeeping machine in posting to records of business transactions for accounting purposes under immediate supervision or in accordance with prescribed objectives
2. High school graduation and experience with business machines can be obtained at junior college or business school

Promotional Opportunities

1. Duplicating Machine Operator
2. Keypunch Operator
3. Clerk

Current Salary

$345 to $750

Average $495

Places of Employment

1. Trade
2. Service
3. Finance
4. State and County government

Employment Outlook

Jobs remain unfilled because of unfavorable working conditions. Rapid increase is expected to 1975.

OFFICE AND CLERICAL

KEY PUNCH OPERATOR-VERIFIER
(D.O.T. 213.582)

Job Summary

A Key Punch Operator-Verifier punches data onto machine tabulation cards in specified sequences from clean document copy, using key punch machine; keeps files of punched cards; verifies punching by use of verifier; may code material to be punched; may duplicate cards by duplication devices.

Qualifications

1. Ability to record and verify data on tabulating cards by using a keypunch or verifying machine
2. Business college training in these machines

Promotional Opportunities

1. Data Processor

Current Salary

$277 to $797

Average $500

Places of Employment

1. Utilities
2. Transportation
3. Trade
4. Service
5. Manufacturing
6. Finance
7. Government

Employment Outlook

There is a lack of qualified applicants at this time and the field is expected to increase rapidly through 1975.

PERSONAL SERVICES

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PERSONAL SERVICES

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PERSONAL SERVICE OCCUPATIONS

OVERVIEW AND OUTLOOK

Personal service occupations include a wide range of different occupations, such as babysitters, janitresses, bankers, laundresses, and lawyers. Training and skill requirements differ greatly. Barbers and cosmetologists need specialized vocational training. Other occupations--general maid, waitress and shirt presser, for example--do not demand formal educational requirements. A high school diploma is usually an advantage, however.

For many personal service occupations, special personality traits and abilities may be as important as formal schooling. Advancement from service occupations that require little specialized training and skill may be difficult, however, for young people without a good basic education and some knowledge of the business in which they are employed.

For many years nationally, the number of workers in personal service occupations has been increasing much faster than the labor force as a whole. This trend is expected to continue as income levels rise and leisure time increases. Locally, personal services will be in even greater demand with the increasingly large population of retired people and tourists.

BARBER
(D.O.T. 330.371)

Job Summary

The barber provides customers with hair cutting, hair styling and hair coloring services. He shampoos hair; shaves and trims beards and mustaches; gives facials, hair treatments and scalp conditioning massages; recommends grooming products.

Qualifications

1. Must have a high standard of personal neatness and keep his shop or work area immaculate
2. Must enjoy people and be able to put customers at ease

Current Salary

$1.60+/hr. - $20,000/yr. for some shop owners
Apprenticeship for 18 months
Salary on commission basis

Promotional Opportunities

Many barbers consider self-employment as the best possibility for advancement and betterment. However, in some shops, there is an opportunity to be promoted to manager.

Training Program

Honolulu Barber School

Employment Outlook

The field will possibly be modified upwards to a more professional level with larger shops which will be much more elaborate.

COSMETOLOGIST - HAIR DRESSER - BEAUTICIAN
(D.O.T. 332.271 and 331.878)

Job Summary

A cosmetologist, hairdresser, or beautician provides beauty services primarily related to care of the hair; shampoos, cuts, sets, styles, straightens, bleaches, tints hair and gives permanent waves; may give manicures, scalp and facial treatments; may provide makeup analysis; cleans and styles wigs and hair pieces.

Qualifications

1. Ability to get along with people
2. Knowledge of changing hair styles and beauty techniques

Current Salary

$65 - $90/week to $300/week

Training Programs

Honolulu Community College
Academy Beauty College, Inc.
Gary's Beauty College
Hollywood Beauty College
Royal School of Beauty Culture
Beauty College of Hawaii

Local Information Contact

Hawaii State Hairdresses and Cosmetologists Assn.
Kuhio Theater Building
Honolulu, Hawaii
Telephone: 941-0737

Employment Outlook

The high incidence of working women in Hawaii and the subsequent income earned make it possible for women to patronize beauty salons on a regular basis, resulting in a need for cosmetologists.

Promotional Opporutnities

As one's talents and reputation as cosmetologist improve, so do one's commissions. Large profits are available to shop owners.

INSTRUCTOR, DANCING
(D.O.T. 151.028)

Job Summary

A dancing instructor instructs pupils in forms of dancing; observes students to determine physical and artistic qualifications and limitations and plans programs to meet students' needs and aspirations; explains and demonstrates techniques and methods of regulating movements of body and feet to musical or rhythmic accompaniments; drills pupils in execution of dance steps. Many dancers combine stage work with their teaching.

Qualifications

Serious training for a dancing career traditionally begins by age 12 or earlier. A teaching position in professional schools usually requires experience as a performer. Maturity, sensitivity to individual learning differences, and a broad educational background are important.

Employment Outlook

The popularity of dance locally contributes to the demand for teachers of dancing.

Further Information

Dance Directory compiled by:

American Association for Health,
Physical Education and Recreation
National Educational Assn.
1201 16th Street N.W.
Washington, D.C. 20036

DRESSMAKER
(D.O.T. 785.361)

Job Summary

A dressmaker makes women's garments, such as dresses, coats, and suits, according to customer's specifications and measurements; discusses with customer type of material, pattern or style to be used in making garment; measures customer to determine modification from pattern, using a tape measure; positions and pins pattern sections, and cuts fabric with scissors; sews fabric parts by hand or machine.

Qualifications

1. Good eyesight and manual dexterity
2. Ability to use power machine

Current Salary

$1.60 - $4.00/hr. depending on experience and employer

Training Programs

Fashion Center
Fashion Institute
Hawaii's School of Fashion Design
Honolulu Mary Nette Sewing
Honolulu Practical Sewing
Kaimuki Sewing
Kaneohe Sewing
Style Center
Tsunoda School of Fashion
Umemoto Sewing
Apparel Design at Hawaii, Honolulu and Maui Community Colleges

The Manpower Center trains interested and eligible people in power machine operation.

DRY CLEANER
(D.O.T. 362.782)

Job Summary

The dry cleaner operates a drycleaning machine to clean materials that cannot be washed in water, utilizing knowledge of cleaning processes, fabrics, and colors to determine procedure; sorts articles and places lot of sorted articles in drum of dry cleaning machine and fastens cover; adds soap or chemicals to facilitate cleaning process; may clean articles by hand that are too delicate or too badly soiled to respond to cleaning in machine.

Qualifications

1. No formal educational requirements
2. Knowledge of the cleaning processes, fabrics and colors is helpful but can be learned on the job.

Current Salary

$1.60 - $2.25/hr.

Training Program

Available on-the-job

Promotional Opportunities

Supervisor

Salary increases

EMBALMER
(D.O.T. 338.381)

Job Summary

An embalmer prepares bodies for burial in accordance with legal requirements. He performs various functions such as: making incisions in arm or thigh, using scalpel, inserting pump tubes into artery, and pumping the blood from the circulatory system and replacing blood with embalming fluid; reshaping or reconstructing disfigured or maimed bodies, using such materials as clay, cotton, plaster of paris, and wax; applying cosmetics to impart lifelike appearance; dressing body and placing it in casket.

Qualifications

1. High school diploma
2. Finger dexterity and ability to use embalmer's equipment

Current Salary

$650 - $1,100/mo. for licensed embalmer

Training Program

Apprenticeship program permits one to earn approximately $500 per month while he learns. The program lasts 2 years. An apprentice should take intensive courses in chemistry and anatomy outside of his on-the-job training to better prepare for the licensing examination.

Employment Outlook and Information Referral Source

The increasing population will provide some additional jobs. However, employment opportunities are limited.

Hawaii Funeral Directors Association
1330 Maunakea St.
Honolulu, Hawaii
Attention: Mr. Borthwick
Telephone: 531-3566

FUNERAL DIRECTOR
(D.O.T. 187.168)

Job Summary

A funeral director arranges and directs funeral services. He interviews family or other authorized persons to arrange details such as: preparation of obituary notices, selection of casket, determination of location and time of burial, selection of pallbearers, procurement of official for religious rites, transportation of mourners; and plans placement of casket in parlor or chapel and adjusts lights, fixtures and flowers.

Qualification

Personality to communicate favorably with people under stress and put them at ease

Current Salary

$650 - $1,100/mo.

Training Program

To be a successful funeral director, one would ideally have a background in sales and experience in working with people.

Employment Outlook

The increasing population will provide some additional jobs. However, employment opportunities are limited.

Local Information Referral Source

Hawaii Funeral Directors Association
1330 Maunakea St.
Honolulu, Hawaii

Attention: Mr. Borthwick
Telephone: 531-3566

PERSONAL SERVICES

GENERAL MAID
(D.O.T. 306.878)

Job Summary

A general maid is expected to live at the place of employment and do some work as day-worker.

Current Salary

$100 - $175/month plus room and board

Contact:

Manpower Center
1105 Dillingham Blvd.
Honolulu, Hawaii
Telephone: 845-2071

Employment Outlook

Many maids have certain days off for themselves and have their own private room and good food in a nice home.

See also Day Worker - Homemaking Related Occupations

INTERIOR DESIGNER AND DECORATOR
(D.O.T. 142.051)

Job Summary

An interior designer and decorator provides planning, counsel, and guidance with respect to the design, decoration or arrangement of the interior of any building or structure. Duties include evaluation, space planning, layout, work flow, and structural design; use of asthetic disciplines in the decoration of interior areas, and the supervision of the composition and specifications of the furniture, fabrics, wall and floor coverings, accessories, ornaments, or other items to be used in connection with such interior areas. A designer may specialize in residences or commercial structures or both. He must consider the functional needs, personal habits and tastes of his clients, and design the interiors to suit their personalities.

Qualifications

1. Physical endurance, mental ability and flexibility to cope with a diversity of work, and also deal tactfully with clients with varying degrees of education, wealth, and taste
2. Graduation from a 3-year full time professional school of interior design, or graduation with a Bachelor's degree with a major in interior design or architecture

Current Salary

Beginning $85 - $125/week

Experienced 5 - 7 years,
$500 - $2,000/mo.

Employment Outlook

The profession has grown rapidly, particularly in the last 10 years, and increased opportunity has accompanied this growth. For individuals with basic talent, good design education, and the willingness to work hard, it can be personally and financially rewarding.

Entry Position

Young designers must be prepared to do all kinds of routine work such as record keeping, typing, filing, cataloging samples and constant study of old and new sources. After becoming thoroughly familiar with the firm's operation, he may, under supervision, draw floor plans, color schemes, and sit in on client consultations.

Associations

National Society of Interior Designers
American Institute of Interior Designers

Promotional Opportunities

Advancement may be rapid for those assistant designers who learn quickly and are willing to work hard to obtain the practical knowledge necessary to become qualified professional designers.

Further Information

Department of Architecture
George Annex B-2
College of Arts and Sciences
University of Hawaii
Telephone: 944-7225

LAWYER
(D.O.T. 110.108)

Job Summary

A lawyer conducts criminal and civil lawsuits, draws up legal documents, advises clients as to legal rights, and practices other phases of law. He gathers evidence in divorce, civil, criminal, and other cases to initiate legal action; represents client in court, and before quasi-judicial or administrative agencies of the government; may act as trustee, guardian or executor.

Qualifications

1. Seven years of full time study after high school
2. Before a person can practice law in the court of any State, he must be admitted to the bar of that State. If a lawyer has been admitted to the bar in another state, he can be admitted to practice in Hawaii.

Current Salary

Approximately $10,000/year after one year's experience. New lawyers starting their own practice may earn a little more than expenses during the first few years.

Employment

Most lawyers are engaged in general practice, handling all kinds of legal work for clients. However, a significant number specialize in one branch of law, such as corporation, criminal, labor, patent, real estate, tax or international law. A legal background also is a valuable asset to people seeking or holding public office.

MASSEUR - MASSEUSE
(D.O.T. 334.878)

Job Summary

A masseur or masseuse massages customers and administers other body conditioning treatments for hygenic or remedial purposes; applies alcohol, lubricants, or other rubbing compounds; massages body, using such techniques as kneading, rubbing, and stroking flesh, to stimulate blood circulation, relax contracted muscles, or to relieve other conditions, using hands or vibrating equipment; administers steam or dry heat, ultraviolet or infared, or water treatments on request of customer or instructions of physician.

Qualifications

1. Passing state licensing examination
2. Good moral character

Current Salary

$1.75/hr. - $500/mo.

Employment Outlook

As leisure time and personal income levels increase, the services of the masseur (masseuse) will be in demand.

Advancement

Salary increases

Licensing Information

Board of Massage
Professional and Vocational Licensing
Hawaii State Department of Regulatory Agencies
1010 Richards Street
Honolulu, Hawaii 96813

PERSONAL SERVICES

PRESSER
(D.O.T. 363.782)

Job Summary (Entry Level Position)

The presser operates or tends one or more pressing machines to press wearing apparel. He performs shut pressing operation and may fold or stack finished work or hang them on racks.

Qualifications

1. No formal educational requirements
2. Ability to operate machines under hot and humid conditions

Current Salary	Promotional Opportunities
$1.60 - $2.80/hr.	Salary increase
	Supervisory position

PHOTOGRAPHER, PORTRAIT
(D.O.T. 143.062)

Job Summary

A photographer photographs persons and makes photographic negatives; consults with customers to obtain information for photographic details; arranges equipment to obtain proper backgrounds; poses subject in position to bring out desirable features.

Qualification

Manual dexterity and some artistic ability

Current Salary

Beginning photographers generally earn from $90 - $110/week

Training Program

Young people may prepare for work as a professional photographer through 2 or 3 years of on-the-job training in a portrait studio.

Additional Information

Professional Photographers of America, Inc.
1090 Executive Way
Oak Lead Commons
Des Plaines, Ill. 60018

Promotional Opportunities

A photographer can go into business for himself with a modest financial investment.

Employment Outlook

Competition for employment in the portrait field of photography is expected to be keen; nevertheless, opportunities should exist for those who are competent and well trained. The available supply of portrait photographers is continually enlarged by people who are employed in other occupations but who take pictures in their spare time.

REDUCING SALON ATTENDANT
(D.O.T. 334.878)

Job Summary

A reducing salon attendant performs duties for customers who wish to lose weight; assists customers in the use of various reducing equipment; advises customers as to proper time in various activities.

Qualifications

1. Courtesy, tact and personal neatness
2. Good moral character

Current Salary

$1.60 - $2.50/hr.

Training Program

Entry level position. No experience necessary.

Promotional Opportunities

One can advance to positions as instructor or masseur with appropriate experience and training which is usually available on-the-job.

WASHER, MACHINE
(D.O.T. 361.885)

Job Summary

A machine washer operates or tends one or more machines to wash linens, garments, curtains, drapes and other articles; mixes and adds soap, bluing and bleaching solutions; may make minor repairs to washing machines.

Qualifications

1. Good health as some lifting is required
2. Ability to distinguish between different fabrics

Current Salary

$1.65 - $2.87/hr.

Promotional Opportunities

To other positions available at place of employment such as dry cleaner

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PUBLIC SERVICES

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PUBLIC SERVICES

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Library Assistant I
Library Assistant II
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Livestock Inspector I
Maintenance Man
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Pest Control Aid I
Police Services Officer I
Police Services Officer II
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Rodent Control Man I
Social Service Aid I
Tree Trimmer I
Vector Control Inspector I
Water Meter Mechanic Helper
Water Service Inspector I
Water System Serviceman Helper
Wildlife Management Aid I

AGRICULTURAL RESEARCH AID I
(D.O.T. 421.384)

Job Summary

This is the entry level in the Agricultural Research Aid/Technician series, and duties are designed to provide a fundamental understanding of the work situation in agricultural research and to familiarize an employee with various basic and specialized work processes and techniques. Under close supervision, the trainee assists with such tasks as harvesting or collecting, measuring, weighing counting and recording of data on crops or animals, and/or their products; assists in the observation of proper flow and amount of irrigation water, sifting and mixing of potting material, and the potting and labeling of seedlings. The trainee may also operate light power equipment.

In addition, the aid performs simple, somewhat arduous manual tasks; cleans pens, cages, and other work areas; digs postholes and replaces fencing; assists in assembling or storing tools and supplies; disinfects, cleans, sharpens and otherwise assists in maintaining tools and equipment.

Qualifications

1. Training and Experience:
   a. graduation from high school
   b. in the higher levels, excess experience in work and specialized areas may be substituted for education on a year-for-year basis.
   c. general experience may be any kind or type of work in the operation of a farm or related agricultural lab or industry.

2. Knowledge of arithmetic and farm work

3. Ability to follow oral and written instructions; use standard farm tools and equipment; perform manual and repetitive work; make simple observations and record data accurately; speak basic English; summarize numerical data and perform standard computations

Promotional Opportunities

Positions which are part of the designated career ladder are:

Agricultural Research Aid II

Current Salary

Starting: $414/mo.
Range: $529/mo.

Career Ladder Range:
$414-$781/mo.

Agricultural Research Technician
III, IV, V and VI

Place of Employment

State of Hawaii

ANIMAL CARETAKER I
(D.O.T. 419.884)

Job Summary

The Animal Caretaker prepares food according to instructions and feeds and waters dogs, cats, or other animals on schedule; cleans food trays and water pans; collects and properly disposes of refuse; cleans, disinfects and maintains pens, cages, kennels, and other animal quarters; bathes and grooms animals; checks and reports symptoms of sickness or unusual behavior of animals; checks and reports damaged or defective animal quarters or equipment; makes minor repairs as needed; conducts owners of animals and other visitors through the quaratine station and answers their questions pertinent to quarantine regulations or the condition and care of animals; guards against infraction of rules and regulations by visitors; assists veterinarians in the examination and medical treatment of animals by restraining animals and performing tasks as directed.

Qualifications

1. Training and Experience
    a. some experience in the handling and care of animals
    b. **eighth** grade education
2. Knowledge of methods used in handling, restraining and caring for animals
3. Ability to follow oral and written instructions; handle and restrain animals; detect signs of unusal behavior in animals; deal effectively with the public; make minor **repairs** to damaged or defective animal quarters

Promotional Opportunities

Progress in this area is to Animal Caretaker II

Current Salary

Starting: $498/mo.
Range: $605/mo.

Place of Employment

State of Hawaii

PUBLIC SERVICES

AQUARIST I
(D.O.T. 356.874)

Job Summary

This is the entry level for the Aquarist series. The Aquarist participates in an on-the-job training program which includes the collection and maintenance of a variety of marine and fresh water aquarium specimens. Work assignments include instruction and participation in the methods employed in the collection, feeding and care of specimens, the recognition and treatment of fish diseases, the operation and maintenance of mechanical air and water distribution equipment, and instruction in the operation of light motor vehicles, trucks and boats.

Qualifications

1. Training and experience:
    a. One year of general working experience. Such work must have demonstrated mechanical aptitude or have been supplemented by training in mechanically oriented subjects.
    b. In the higher level positions, specialized experience is required showing progressive responsiblity.
2. Knowledge of general biology
3. May be required to possess a valid Hawaii State Operator's license
4. For all levels, applicants must qualify on an appropriate test.
5. Ability to learn collection, care and maintenance of aquarium machinery; learn characteristics of marine animals; be able to operate light motor vehicle, truck and boat
6. Applicants must be able to physically perform the duties of the position efficiently.

Current Salary

Starting: $436/mo.
Range: $530/mo. (State of Hawaii)

Places of Employment

State of Hawaii
Sea Life Park
Private Tropical Fish Suppliers

Opportunities

Progress in this series leads to Aquarist II and III.

This career area could also extend to the following:

Fishery Aid and Technician series
Marine Biologist positions with the additional requisite education

Job Summary

The Cesspool Service Investigator I receives and investigates complaints concerning the treatment and maintenance of defective cesspools; personally contacts complainants to determine the nature and extent of their complaints; searches the premises for obvious signs of non-servicing, inaccessibility of the cesspool to service crews, destruction to the property by service crews, etc.; interviews neighbors and others who may be able to provide pertinent information; ascertains the nature and purpose of a building utilizing a cesspool to determine if a service charge is applicable; inspects and reports to the State Department of Health on cesspools that are structurally deficient and hazardous; confers with the contractor to verify the chemical treatment of cesspools; informs property owners of the City or County's policies, procedures and ordinances governing cesspool services; may supervise others in the conduct of investigative tasks; prepares reports and maintains appropriate records.

Qualifications

Training and experience: A combination of education and experience equivalent to graduation from high school and one year of experience in cesspool servicing work

Promotional Opportunities

In this series, the line of progression leads to the position of Cesspool Investigator II.

Current Salary

Starting: $529/mo.
Range: $675/mo.

Places of Employment

City and County of Honolulu
Hawaii, Maui & Kauai Counties

Job Summary

The Cesspool Service Investigator series is primarily concerned with the conduct of investigations relating to various problems and complaints arising from the servicing and/or non-servicing of cesspools. This level independently performs the full range of cesspool service investigations.

Qualifications	Current Salary
Same as for Investigator I plus three years' experience in cesspool servicing work including one year involving public contact.	Starting: $583 Range: $744

CESSPOOL WORKER
(D.O.T. 955.887)

Job Summary

This is the entry level for the Cesspool Pumping Classes. This class is distinguished from other laboring classes by its requirement for performing light and heavy, unpleasant manual labor under obnoxious conditions in the pumping and disposing of wastes from cesspools as a full-time assignment. The Cesspool Worker participates as a member of a cesspool pumping crew, performing the manual labor in the servicing, unloading, carrying, connecting, and positioning of intake hose equipment; observes type and amount of waste being pumped into tank truck; secures hose equipment; performs clean-up tasks.

Qualifications

1. Training and Experience: A combination of education and experience substantially equivalent to completion of the eighth grade and one year of manual labor experience
2. Knowledge of common hand tools and their use
3. Ability to perform manual labor under unpleasant, obnoxious conditions; understand simple oral instructions; work harmoniously with others
4. Must meet physical and health condition standards deemed necessary and proper for performance of the duties

Promotional Opportunities

Progress in the Cesspool Pumping classes is as follows:

Cesspool Pumping Equipment Operator
Cesspool Pumping Working Foreman
Cesspool Pumping Foreman

Current Salary

Starting: $468/mo.
Range: $569/mo.

Place of Employment

City and County of Honolulu
Various Counties

Job Summary

This is the entry level class in the Educational Assistant series. A position in this class functions as a trainee and participates in orientation and other training sessions; assists in the performance of a variety of class management and care and clerical activities; is subject to the immediate supervision of a classroom teacher or teachers. Supervision is close and continuous but as work progresses, recurring routines may be performed under general supervision. Duties characteristic of higher level of Educational Assistant may also be performed for training purposes.

Qualifications

1. High school education or work experience requiring the ability to read, comprehend, and apply written directions, or a high degree of verbal skills may be substituted for lack of high school education.
2. Knowledge of grammar, spelling and word usage, arithmetic
3. Ability to understand and follow oral and written instructions; learn and perform a variety of classroom and related clerical tasks; learn basic first aid; speak and deal effectively with children; work effectively with others; learn practical aspects of educational program goals, functions and activities; learn use of office machines, and audio-visual equipment
4. Physical Requirements:
    a. Ability to perform efficiently the duties of the position
    b. Good distance vision in one eye and ability to read without strain: glasses permitted
    c. Ability to hear conversational voice with or without aid
    d. Emotional and mental stability

Current Salary

Starting: $324/mo.
Range: $414/mo.

Places of Employment

State of Hawaii

Promotional Opportunities

This is the entry level for the Educational Assistant series which leads to:

Educational Assistant II
Educational Assistant III
Educational Assistant IV
Educational Assistant V

Employment Outlook

There is a current effort to increase training and positions for those in the para-professionals.

Openings for the State of Hawaii are presently affected by the Governor's freeze on all State positions.

ELECTRICIAN HELPER
(D.O.T. 821.887)

Job Summary

The Electrician Helper assists a skilled Electrician by performing assigned and routine work tasks in electrical wiring or the installation and maintenance of electrical equipment. Duties are essentially routine and repetitive in nature but require knowledge of the elementary principles of electricity and of the hazards of working near energized lines; may dig pole holes, assist in setting poles, and occasionally work on poles; assist in installing cable; assists in the installation of equipment in electrical distributing stations; perform simple trouble shooting; may install, maintain and repair small electrical and mechanical equipment.

Qualifications

1. Training and experience: Two years of full-time work experience as an Apprentice or Helper under a Journeyman Electrician
2. Knowledge of elementary practices and principles of electricity; common tools and materials used in the electrical trade; materials and equipment employed in the electrical trade. May be required to know elementary principles of refrigeration.
3. Ability to use common electrical tools; do mechanical work; understand and follow oral and written instruction

Promotional Opportunities

Advancement in this career area is usually along well defined lines. After completing an Apprenticeship program, the individual is qualified for a Journeyman's position. Advancement along these lines leads to a Leaderman position.

Current Wage/Salary

$2.50/hr.: Starting

$468 - $569 Range: Helper

Career Range: $985+/mo.

Places of Employment

State of Hawaii
Electric Utilities Company
Electrical Repairs
Electrical Wiring
Construction

See also Construction Section: Electrician

EMPLOYMENT AID I
(D.O.T. 166.268)

Job Summary

This is the entry level in the Employment Aid series. This is a training level in which the Employment Aid receives training in the goals, functions and activities of the employment service program; accompanies employment service specialists in making contacts with potential applicants who are occupationally disadvantaged to encourage them to seek help and guidance in order to improve their chances for training and employment; learns to assess attitudes of clients and to help them overcome their negative attitudes and other barriers for effective relationships ; acts as liaison between disadvantaged clients and employment counselors by informing counselors of the problems, reactions, feelings, and activities of clients; accompanies clients in their contact with courts, clinics, training facilities and other agencies; transports materials between offices, training sites and other interested agencies; prepares simple reports.

Qualifications

1. Graduation from high school; no specialized experience is required at this level
2. General knowledge of local social and economic problems and conditions
3. Ability to establish and maintain favorable relationships with occupational disadvantaged and gain their confidence and cooperation
4. Ability to learn the goals, functions and activities of the employment service program
5. Possession of a valid State vehicle operator's license
6. May be required to pass a qualifying examination
7. Must meet the minimum physical and health condition standards

Promotional Opportunities

The entry level in this class lead to the following positions:

Employment Aid II, III, IV and V

Interest and ambition in this area may also lead to the professional occupations of Employment Interviewer and Counselor.

Place of Employment

State of Hawaii

Current Salary

Start: $375/mo.
Range: $480/mo.

Career Ladder Range:
$375-$709/mo.

FILM LIBRARY WORKER I
(D.O.T. 223.387)

Job Summary

This is the entry level in the film library worker series. Positions in this class involve participation in the circulation of materials, operation of inspectional equipment, making minor repairs to films and reporting substantial defects, operating projectors, and receiving training in the duties characteristic of higher levels. Following initial orientation, assignments are performed according to standard procedures and under general supervision.

Qualifications

1. One year of general experience which demonstrates that the applicant possesses mechanical aptitude or the ability to operate mechanical equipment
2. Graduation from high school with coursework in the mechanical trades and related courses which involved working with and learning to use mechanical equipment may be substituted for the one year of general experience
3. Possession of a certificate indicating completion of coursework or training in the operation and maintenance of audio-vidual equipment at an accredited school or in the military. Similar training institution may be substituted for the one year of general experience.
4. Knowledge of methods used in operating and adjusting audio-visual equipment; safety requirements of motion picture projection
5. Ability to operate and adjust audio-visual equipment; learn to make minor repairs and to service equipment; learn to inspect and splice films; learn clerical routines and do filing; give and receive oral instructions
6. For some positions, applicants must have a valid motor vehicle operator's license and a current Public Utilities Commission Doctor's Certificate.
7. Applicants for all positions will be required to qualify on the appropriate examination.
8. Persons applying should be suitable in qualities and temperament for this type of work; be able to work with and get along with others and the general public; be able to pay attention to detail.

Promotional Opportunities

This is the entry level for the film library worker series.

Progress in this area is as follows:
Film Library Worker II, III

Progress in this type of work may also overlap into the series:
Audio-Visual Technician I, II, III

Places of Employment

State of Hawaii
Audio-Visual Studios and Shops
Movie Houses and Producers

Current Salary

Starting: $340/mo.
Range: $435/mo.
(State Employment)

FIRE FIGHTER
(D.O.T. 373.884)

Job Summary

Under immediate supervision, the Fire Fighter fights fires and rescues persons injured or in distress; responds to fire alarms and other emergency calls; lays and connects hose lines; operates nozzles to effectively suppress fire; gains access to buildings and structures; makes forcible entry into areas which impede effective firefighting rescue and escape; uses various firefighting tools and portable firefighting equipment in gaining entrace, fighting fire and rescuing and removing persons from danger; administers first aid to injured persons; revives drowning victims and persons overcome by fumes and smoke using resuscitating methods and apparatus; performs salvage and clean up work when fire is under control; reloads hoses, ladders and other firefighting and rescue tools and equipment for return to station; performs clean up and maintenance on all fire fighting equipment; attends training sessions and drills in firefighting and rescue methods, fire codes and regulations; participates in tours of the area being serviced to study and become familiar with the locale and placement of hydrants, water supplies, alarm boxes, fire escapes, and streets and buildings; performs routine duties in cleaning and maintaining station living and working facilities and grounds; stands floor watch at the station; may be assigned to a fire boat and assist in its maintenance; may demonstrate methods of firefighting and rescue work and explain the use of equipment or distribute literature on fire safety.

Qualifications

1. Training and experience: A combination of education and experience substantially equivalent to graduation from high school and two years of general work experience

2. License Requirements: Possession of a valid motor vehicle operator's license, possession of a Standard First Aid Certificate and a Senior Lifesaving Certificate prior to completion of probation

3. Ability to learn and apply firefighting principles, practices, techniques, tools and equipment to actual situations; climb ladders and work at heights; withstand physical exertion and perform arduous work under adverse conditions; act quickly and effectively in emergencies; read and understand technical materials; understand and follow written instructions; get along with others

Promotional Opportunities

This is the entry level class for Fire Protection Career areas at the City and County levels. Progress within this area is as follows:

- Search and Rescue Squadman
- Fire Equipment Operator
- Fire Lieutenant
- Fire Captain
- Division Commander
- Fire Suppressions Operations Commander
- Fire Administrative Services Officer
- Alarm Operator
- Fire Alarm Shift Supervisor
- Fire Alarm Superintendent
- Fire Prevention Inspector
- Fire Prevention Education Specialist
- Safety and Training Bureau Chief
- Fire Boat Engineer
- Fire Boat Pilot

Current Salary

Starting: $643/mo.
Range: $820/mo.

Employment Outlook

Although openings are limited, positions are expected to be opened along with continued urban expansion and population growth.

FISH AND GAME WARDEN I
(D.O.T. 379.168)

Job Summary

The Fish and Game Warden I patrols fishing and hunting areas in an assigned district; inspects fishing activities for the illegal use of nets, chemicals, traps, explosives, and bait; prohibits hunting and trapping of out of season fish and game; checks catches or game takes, licenses, equipment, and gear for compliance with laws, rules and regulations; checks the reports of licensed commercial fishing craft; inspects markets, restaurants and places of storage for the sale of illegally taken fish; arrests violators; seizes out of season catches and games takes; swears out complaints and serves subpoenas; presents evidence of violations; issues fishing and hunting licenses; assists in taking fish and game census; observes, records and reports data regarding pollution in streams and coastal waters; explains fish, game and firearm laws to indivduals and interested groups and provides information relative to fishing and hunting conditions in the district patrolled; oversees the work of volunteer deputy fish and game wardens; may assist in maintaining improvements made in forest areas; prepares routine and special reports of activities and observations made during patrols.

Qualifications

1. Training and experience:
    a. one year of experience in law enforcement or inspectional work which involves detecting violations of laws and regulations and collecting and reporting facts and evidence pertaining to such violations
    b. graduation from high school
    c. any equivalent combination of experience and training
2. Possession of a valid license to operate a motor vehicle in the State of Hawaii

3. Knowledge of investigational and inspectional techniques and methods, laws of arrest, and rules of evidence

4. Ability to learn, interpret, apply and enforce fish and game laws and regulations; analyze situations accurately, think quickly in emergencies and adopt an effective course of action; learn to use and care for firearms; deal firmly but tactfully with violators; speak effectively to individuals and groups; follow oral and written instructions; prepare clear and concise and accurate reports; swim 100 yards

5. Physical Requirements:

   a. Male

   b. 21-35 years of age

   c. 5'8" and 150 pounds with correct ratio of weight to height above these minimums

   d. The duties require occasional strenuous physical exertion involving prolonged exposure to the elements during the day or night, on foot or in a vehicle, on land or on sea while patrolling and occasionally when making arrests; the duties may involve applying physical restraint and self-defense. Applicants must be physically able to perform the duties of the position

Promotional Opportunities

Progress in this career area is as follows:

Fish and Game Warden II and III
Supervising Fish and Game Warden

Current Salary

Starting: $612/mo.
Range: $781/mo.

Career Ladder Range:
$612-$1046/mo.

Place of Employment

State of Hawaii

FISHERY AID I
(D.O.T. 041.168)

Job Summary

This is the entry level in the Fishery Aid and Technician series, and is limited to positions which are part of a career ladder to positions of higher level in the fishery support series. Under close supervision, the Fishery Aid I assists with such tasks as collecting, counting, and recording data on biological specimens on field trips, and data on physical, chemical and biological aspects of streams on various islands in limnologicals surveys; conducts interviews and creel censuses with fishermen; collects and transports aquatic animals to various locations throughout the State for experimental planting.

In addition, the Fishery Aid I performs simple, repetitive manual tasks such as cleaning and scrubbing aquaria and outdoor rearing tanks; prepares fish food; cares for and feeds fishes and crustaceans; removes dead fish from tanks; washes boats, fishing gear and equipment after each use. Thus duties are assigned as part of a developmental process acquainting the incumbent with some of the processes, terminology and techniques of the various fishery research and management areas by providing an opportunity to participate in a variety of operations at an elementary level.

Qualifications

1. Training and Experience:
    a. graduation from high school
    b. in the higher levels, excess work experience may be substituted for the required education on a year-for-year basis.
    c. training at an accredited college or university in fishery, biology, marine ecology, or other closely related majors may be substituted for the required specialized experience on a year-for-year basis up to a maximum of 2 years.
2. May be required to possess a valid State of Hawaii Operator's License

3. For some positions, applicants will be required to be able to dive or learn to dive using self-contained underwater breathing apparatus.

4. For all levels, applicants must qualify on an appropriate test.

5. For certain positions, because of the highly specialized nature of the duties and responsibilities, certification and selection may be restricted to eligibles who possess the pertinent experience and training necessary to perform the work.

6. Knowledge of arithmetic

7. Ability to follow oral and written instructions; make simple field observations; keep simple records; make simple oral and written reports

Promotional Opportunities

Positions which are part of the designated career ladder are:

Fishery II and Fishery Technician III, IV, and V

Current Salary

Starting: $414/mo.
Range: $529/mo.

Career Ladder Range:
$414-$781/mo.

Place of Employment

State of Hawaii

FOREST RANGER I
(D.O.T. 441.384)

Job Summary

The entry level position for Forest Ranger patrols forest areas and conservation districts enforcing laws and regulations concerning land use, game limits and illegal taking of plants, trees, soil or other forest products; maintains and enforces boundaries of conservation districts and forest reserve areas; serves warrants and serves as a witness in court actions; patrols forest for fire hazards; posts fire danger signs and distributes fire prevention and control information; reports on condition of fire breaks and access roads and trails; fights forest fires and may direct forest fire fighting; maintains and performs repairs on forest recreational areas; participates in construction and maintenance of bridges, fences, gates, roads, culverts, trails and sanitary facilities; provides information on forest trails, land features and subjects related to conservation; guides field trips to remote forest areas; reads and records data on rain gauges and meterological instruments; collects plant specimens; participates in forestry surveys; participates in research studies; supervises forestry workers; may enforce fish and game laws.

Qualifications

1. Training and Experience:
    a. Graduation from high school
    b. Two years of responsible experience in forestry maintenance, diversified agriculture, or nursery work which required the knowledge of the different types of vegetation and methods of planting, cultivation and control
    c. Graduation from an accredited college or university with a degree in Forestry may be substituted for two years of the required experience.
2. Must possess a current Hawaii State motor vehicle operator's license

3. Knowledge of State rules, regulations and laws pertaining to public use of forest areas; general objectives of forestry management and research; native and introduced vegetation and methods of planting and cultivation and control; fire hazards and methods of control; methods and techniques of constructions and maintenance of forest facilities

4. Ability to enforce forestry regulations; educate the public in forest conservation and development rules; regulations and objectives; participates in forest management activities; fight forest fires; operate motorized equipment

5. Applicants must be physically able to perform the tasks and duties of the position.

Promotional Opportunities

Progress in this career area is as follows:

Forest Ranger II
District Ranger
State Ranger

Current Salary

Starting: $504/mo.
Range: $643/mo.

Career Ladder Range:
$504-$1211/mo.

PUBLIC SERVICES

GENERAL LABORER
(D.O.T. 589.887)

Job Summary

The General Laborer performs work under the direction of a higher level employee. Work tasks are usually routine and repetitive in nature so that once they are learned the work may be performed independently without further instruction. This is usually considered an entry level position with work performed being limited primarily to manual labor which does not require a great degree of manipulative skill. Examples of range of duties: do pick and shovel work; dig and widen ditches; cut grass; cut trees; repair roads as a member of a construction or maintenance crew; load and unload supplies and equipment; lay pipe and back fills; clean restrooms; clear trails in forests; move heavy material using handtruck or dolly; mix cement or mortar; may operate a vehicle.

Qualifications

1. Training and Experience: no previous experience is required although some employers may prefer one year of work experience in the performance of manual labor.
2. Ability to understand and follow simple oral directions

Promotional Opportunities

A person working as a General Laborer may progress through several levels of progressively higher skill experience which may eventually lead to a Trainee occupation for a skilled trade or an Apprenticeship program. Progress in these areas usually leads to a position of Foreman or Leadman in which a person is charged with supervising a group of lower level employees doing work with which he has had some general experience in his career.

Current Wages/Salary

$1.65/hr. State Minimum
$2.50+/hr. Range

$400/mo. Start
$545/mo. Range

Employment Outlook

Employment in this type of work constitutes a basic labor grouping which fluctuates directly with the rate of construction, urban expansion or population growth. Though severly affected by the shipping strikes, employment in this area should begin to rise as the local economy revives.

Places of Employment

State of Hawaii

City and Counties

Construction Firms

Gas Company

(See also Construction Section: General Laborer)

HELPER
(D.O.T. 809.887)

Job Summary

A Helper is a worker who assists another worker, usually of a higher level of competence, by performing a number or variety of duties, such as furnishing another worker with materials, tools and supplies; feeding or offbearing machines; holding materials or tools; performing other routine duties. The Helper may learn a trade by entering into an Apprentice program.

In most manufacturing operations, the Helper performs any combination of tasks, such as shaping, forming, or assembling various types of materials and structures; sorts, carries, or positions materials, tools, work aids, or equipment for other workers; prepares materials for assembling and testing, cleaning, installation, identification, wrapping, shipping, etc.

Qualifications

1. Training and experience: usually no training and experience required as employer provides on-the-job training; may require ability to read and write
2. May be required to meet physical and health standards
3. Ability to follow oral and written instructions

Promotional Opportunities

In most manufacturing areas, the Helper is an entry level position. In some cases this will lead directly to an Apprentice program depending on such factors as the employer and the size of the outfit.

Places of Employment

State of Hawaii
Manufacturers (all kinds)
Small business

Current Wages

$1.65/hr. State minimum
$2.50-$4.00/hr. Depending on the type of work and existing Union agreements

Employment Outlook

Openings for Helpers are generally available in a wide spectrum of occupational areas. This is a basic level in most employment areas and the point of entry for many career ladder progressions.

PUBLIC SERVICES

LABORATORY ASSISTANT I
(D.O.T. 029.381)

Job Summary

This is the entry level for the Laboratory Assistant series. The class is characterized by the performance of simple routine tasks in maintaining the care and sterile condition of lab equipment and supplies, including the care and safety of lab animals. Guidelines are limited in number and clearly applicable. No personal contacts are made outside the immediate organization in which employed. There is a minimum of responsibility beyond production, care in handling lab equipment and supplies, seeing that laboratory animals are properly cared for, and reasonable safety procedures are followed in handling contaminated laboratory equipment and supplies.

Qualifications

1. Training and Experience:
    a. Graduation from high school
    b. In the higher levels, progressively responsible lab work experience which has provided the applicant with a practical knowledge of laboratory functions, apparatus and equipment, methods and procedures, and tests is required.
    c. Study in any accredited school above the high school level for medical technicians or laboratory technicians may be substituted for the required experience on a year-for-year basis.
    d. The applicant at higher level openings must conclusively demonstrate that he has the ability to perform the duties of the position for which he is being considered.

2. Applicants must qualify on competitive examinations.

3. Knowledge of laboratory equipment and terminology, methods of cleaning and sterilizing equipment and supplies, methods of caring for laboratory animals.

4. Ability to perform routine laboratory tasks, understand and follow oral and written instructions

Promotional Opportunities

Progression within this area grouping is as follows:

Laboratory Assistant II, III, IV

Place of Employment

State of Hawaii

Current Salary

Starting: $395/mo.
Range: $504/mo.

Career Ladder Range:
$394-$675/mo.

PUBLIC SERVICES

LIBRARY ASSISTANT I
(D.O.T. 249.368)

Job Summary

This is the beginning level of library assistance work. The Library Assistant I performs simple and routine library tasks of such a limited nature that full performance is expected after a few days training or on-the-job practice. Assignments include a limited number of simple tasks requiring strict adherence to governing instructions. Few or no personal contacts are made outside of the immediate organization in which employed. No judgment or discretion is required. There is little responsibility beyond accuracy, production, and reasonable safety procedures to protect library materials from loss or damage. Work is performed under close supervision, or direct instruction of a supervisor. Little supervision is needed after training beyond seeing that materials are provided and that production is steady. Work is spot checked for accuracy and neatness.

Qualifications

1. No general or specialized experience beyond high school is required for the entry level position in the Library Assistant series.
2. Knowledge of alphabet, filing procedures, simple office routines
3. Ability to compare names and numbers accurately and rapidly, learn simple library routines, work cooperatively with others
4. Must be physically able to perform efficiently the duties of the position
5. For most positions, good distance vision in one eye and ability to read without strain printed material the size of typewritten characters is required; glasses are permitted. A few positions may exist which are suitable for the blind.

Promotional Opportunities

This is the entry level for the library assistance series. Progress in this career area is as follows:

- Library Assistant II, III, IV
- Library Technician V, VI, VII
- Librarian II, III, IV, V, VI, VII, VIII
- Archivist I, II, III, IV, V, VI

Places of Employment

State of Hawaii

City and Counties

Current Salary

Starting: $340/mo.
Range: $435/mo.

Employment Outlook

All State of Hawaii positions are currently affected by the Governor's freeze.

PUBLIC SERVICES

LIBRARY ASSISTANT II
(D.O.T. 249.368)

Job Summary

Assignments at this level are designed to provide training in, and experience with, library routines and operations, and some acquaintance with the library's organization and services. Knowledge is acquired on the job related to the functions to which assigned, such as familiarity with shelf-listing arrangements, alphabetical and numerical filing according to a decimal system, call numbers, physical location of various collections, library terminology, etc. Library Assistants II apply governing provisions strictly in accordance with instructions so that there is little responsibility beyond the ability to follow instructions and the accuracy of their own work. Some positions require personal contact with the general public or other library clientele. Duties performed at this level may be continuing assignments or may provide training for higher level work. Work is performed under close supervision.

Qualifications

1. Training and experience: 1/2 year of general experience; length of time is not itself qualifying. The applicant's work experience must also have been of a quality and scope sufficient to enable him to perform efficiently at the level of work for which he is being considered. Graduation from high school may be substituted for 1/2 year of general experience. Study successfully completed in a junior college or community college may be substituted for general experience on the basis of 15 semester credits of its equivalent in quarter credits for each 1/2 year of general experience up to a maximum of one year of general experience (as may be required for higher Library Assistant levels and Library Technician positions).
2. Knowledge of library clerical and page routines, simple office procedures, filing and alphabetizing

3. Ability to work with a general or specialized collection; requiring some familiarity with the library's classification scheme

Promotional Opportunities

Progress in this career is the same as that for Library Assistant I, which is the entry level position for library assistant work.

Current Salary

Starting: $375/mo.

Range: $480/mo.

PUBLIC SERVICES

LINEMAN HELPER
(D.O.T. 821.381)

Job Summary

This is the entry level class in the Lineman series. The Lineman Helper assists the Journeyman Lineman in installing and repairing overhead transmission lines, cross arms, transformers, regulators and street lighting fixtures and in installing and maintaining underground transmission lines; assists in locating shorted, burnt out and open circuits; splices and tapes wires and cables; cuts thread and pulls wire through conduits; digs trenches for underground lines and post holes for setting new poles; trims utility piles to test and repair lines, to hook up standards and to replace burnt out lamps and receptacles; may occasionally drive a light truck.

Qualifications

1. Training and experience: one year of experience involving the installation, maintenance and repair of electrical transmission lines
2. Knowledge of standard tools, materials and practices used in installing, running, and repairing overhead and underground transmission lines; elementary principles of electricity; occupational hazards and safety precautions of the trade
3. Ability to use common tools; learn to climb poles and work at considerable heights; do mechanical work connected with installation and repair of transmission lines and appurtenances do manual work; understand and follow oral and written instructions
4. Must meet the health and physical standards deemed proper and necessary for performance of the duties

Places of Employment	Current Wage/Salary
State of Hawaii	Start: $3.68/hr.
Electric Utilities Company	Range: $4.15/hr.

Promotional Opportunities

This is the entry level position which leads to the Journeyman Lineman class. Progress within this career area may lead to the following positons:

Journeyman Lineman
Leaderman
Working Foreman
Foreman

Current Wage/Salary con't

Start: $468/mo.
Range: $569/mo.

Career Range: $468 - $1032/mo.

Job Summary

This is the entry level in the Livestock Inspector series and is designed to develop the trainee to full performance as an independent worker. He attends orientation and training sessions: learns basic laws, rules and regulations governing the quarantine and inspection of live animals imported into the State: learn fundamental principles, practices, techniques and methodology of livestock inspections, investigation and enforcement; learns to recognize disease conditions and symptoms particularly in relation to quarantinable and infectious diseases; learns to identify species and breeds of animals; becomes familiar with general anatomy of domestic animals so as to assist veterinarians in necropsy work; learns safe work procedures, proper preparation and usage of insecticides and disinfectants, and prescribed cleaning and sanitation methods; accompanies higher-level inspector or veterinarian and participates in inspectional and field control activities; prepares simple operational and work reports.

Qualifications

1. Knowledge of elementary biology
2. Ability to follow oral and written instructions, learn the basic material outlined above in the State's livestock inspection program, and learn to operate equipment.
3. Minimum qualification specifications regarding training and experience, physical requirements, etc., are not available at this writing but may be obtained by comparing this series with other trainee series offered by the State of Hawaii and contained herein or by contacting the State of Hawaii Department of Personnel Services.

Current Salary

Starting: $504/mo.

Range: $643/mo.
(This is for Livestock Inspector-no class designation)

Place of Employment

State of Hawaii

Promotional Opportunities

Progress within this area is within a designated career ladder. Full information is not available at this printing as this is the first specification for a new class. More information may be had by contacting the State of Hawaii Department of Personnel Services.

MAINTENANCE MAN
(D.O.T. 638.281)

Job Summary

The Maintenance Man repairs and maintains, in accordance with diagrams, sketches, operation manuals, and manufacturers' specifications, machinery and mechanical equipment of all types; observes mechanical devices in operation and listens to their sounds to locate causes of trouble; dismantles devices to gain access to and remove defective parts; examines to detect imperfections; inspects to determine changes in dimensional requirements; adjusts functional parts of devices and control instruments; repairs or replaces defective parts; installs special functional and structural parts in devices using handtools; starts devices and tests performance; lubricates and cleans parts; may set up and operate lathe, drill press, grinder, and other metal working tools to make and repair parts; may initiate purchase order for parts and machines; may repair electrical equipment.

Qualifications

1. Training and experience is usually required for this type of work; may be gained on the job working under a Journeyman Mechanic as an Apprentice or through vocational training.
2. Requires good mechanical aptitude
3. Ability to observe machinery to determine causes of malfunction
4. Ability to use various types of machine tools, handtools, and other equipment used for maintaining and repairing all types of machines and devices
5. May require math ability
6. May be required to pass physical condition standards

Current Wages/ Salary

$2.70 - $4.00/hr. Depending on Union Agreement or Employer

$595 - $795/mo.

Places of Employment

- State of Hawaii
- Large Manufacturers
- Canneries
- Mills
- Private Employment

Employment Outlook

Employment in this area should increase with any rise in production of manufactured goods requiring use of machinery and with replacement of labor by machines.

Promotional Opportunities

The Maintenance Man may find available positions in nearly all aspects of manufacturing and all types of industry which are large enough to require private maintenance of their own processing machinery and equipment. The Maintenance Man may also find his abilities readily marketable to the smaller manufacturer who cannot afford to keep a full-time mechanic. Where employed along with other Maintenance Men, progress is usually to the supervisory level, as Working Foreman or Lead Mechanic. With additional training and education, the Mechanic may go into various aspects of professional engineering.

See also Hospitality and Recreation: Maintenance Man

MECHANICAL REPAIRMAN HELPER
(D.O.T. 638.884)

Job Summary

This is the entry level in the Mechanical Repairman series. The Mechanical Repairman Helper assists a skilled mechanical repairman in the repair and overhaul of power mowers, tractor mowers, power trimmers, edgers and other motorized and non-motorized equipment; oils and greases equipment; cleans and stores tools and equipment; repairs tires and tubes; assembles and disassembles gears, clutches and brakes; paints with brush and spray; hooks up special attachments to motorized equipment; assists in receiving and storing supplies and conducting inventory; posts equipment service records; may perform oxyacetylene welding.

Qualifications

1. Training and experience: A combination of education and experience equivalent to completion of the eighth grade and one year of experience as apprentice or helper under a journeyman mechanical repairman
2. Knowledge of common practices, tools, equipment and materials used in mechanical repair work; hazards and safety precautions applicable to the work.
3. Ability to operate motorized equipment; perform minor repairs; understand and follow oral and written instructions
4. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties

Promotional Opportunities

This is the entry level for the Mechanical Repairman series. Progress is as follows:

Mechanical Repairman
Mechanical Repairman Working Foreman
Small Arms Repairman

Current Salary

Starting: $468/mo.
Range: $569/mo.

Places of Employment

City and County of Honolulu
Hawaii, Maui, and Kauai Counties

METER READER I
(D.O.T. 239.588)

Job Summary

The Meter Reader reads water meters and records reading on meter cards; determines current water consumption; checks consumption figures against previous recordings and prepares reports on discrepancies; detects and reports evidence of water leakages, damaged or unauthorized tampering of meters, and unsafe or difficult field conditions; checks meter numbers, type of meter and addresses of consumers against meter cards; prepares daily reports of meter readings; dates meter books; checks on new meter services installed; computes consumer charges when requested; may recommend changes and adjustments to routes; may drive an auto or light truck.

Qualifications

1. Training and experience: A combination of education experience substantially equivalent to graduation from high school and one year of business or office clerical experience
2. License Requirement: Possession of a valid motor vehicle operator's license
3. Knowledge of meter reading practices and equipment; geography of the City and County.
4. Ability to read meters; make simple arithmetical computations; compare names and numbers rapidly and accurately; follow oral and written instructions; deal tactfully and effectively with the public; work harmoniously with others; operate a motor vehicle

Promotional Opportunities

This is the entry level for the Meter Reader series. Progress leads to the Meter Reader II class.

Current Salary

Starting: $435/mo.
Range: $555/mo.

METER READER II
(D.O.T. 239.588)

Job Summary

This level is distinguished by its responsibility for reading and recording water meter readings on an assigned route which is more difficult and complex due to the greater density of service accounts, the frequent existence of large water users, the requirement for reading compound meters, and similar factors;and for assisting in training and advising less experienced personnel in the practices and procedures of meter reading.

Qualifications

Requirements are the same as that for Meter Reader I with the addition of one year of meter reading experience.

Promotional Opportunities

The Meter Reader Series progresses to the supervisory positions of Supervising Meter Reader I and II.

Current Salary

Starting: $480/mo.
Range: $612/mo.

Job Summary

This is the entry level in the New Careers Enrollee series. It is a developmental level which is designed to provide sufficient backgrounds and skills to progress to higher levels of work and to develop good work habits. It is also intended to enable the supervisor to assess aptitude for specific areas of service and ability to relate to agency clients and profit from further training.

A position in this class performs simple, developmental sub-professional tasks in one or more human service areas under close supervision, and participates in various formal and informal academic and vocational training programs. Work tasks consist of selected assignments performed according to specific instructions and under close supervision and observation. Such assignments are intended to provide an opportunity for applying knowledge and skill gained in the training program, to become more familiar with agency operations and to develop basic skills and appropriate attitudes in dealing with agency clients.

Qualifications

No work experience is required. Applicants must possess aptitude to profit from on-the-job training and training in fundamental academic skills and be able to relate to agency clients. Indicators of such attitude are reliability and dependability; job readiness for enrollee type of work; willingness to follow orders; ability to work safely without harming one's self; interest and motivation to work with others; ability to read and write.

Physical Requirements: Able to perform efficiently the duties of the position; good distance vision with ability to read without strain--glasses

Qualifications (con't)

permitted; ability to hear conversational voice with or without aid; ability to distinguish shades of color may be required in some positions; missing limb does not disqualify - may be necessary that this condition be compensated by use of satisfactory prosthesis.

Any physical condition which would cause the applicant to be a hazard to himself or to others will disqualify for appointment.

Applicant must possess emotional and mental stability.

Opportunities

Openings in the human services include library, social welfare, employment, and para-medical. New Careers Enrollee I is the entry level position for New Careers Enrollee classes II and III.

Current Salary

Starting: $325
Range: $414

PUBLIC SERVICES

NEW CAREERS ENROLLEE II

Job Summary

This is the second level of training in the New Careers Enrollee series. This level is designed to continue the basic orientation, and to provide sufficient, specific knowledge and ability to enable the enrollee to perform typical sub-professional work tasks in one of the human service areas. A position in this class performs limited tasks under close supervision and participates in various formal and informal training activities in the specified service area. Work tasks consist of selected, progressively difficult assignments, performed under close supervision and observation, which are intended to provide an opportunity to apply the additional training received to actual work situations, to develop a greater understanding of the program activities and to acquire skill in the performance of typical tasks, and also to provide an opportunity for continued supervisory evaluation of aptitude and readiness for assuming typical work assignments in the specific human service area.

Qualifications

Six (6) months of successfully completed experience as a New Careers Enrollee which included orientation and on-the-job training in the goals, functions and activities of a human service area and successfully completed classroom training in the fundamental academic skills

Current Salary

Starting: $340/mo.

Range: $435/mo.

NEW CAREERS ENROLLEE III

Job Summary

This is the final level of training in the New Careers Enrollee series. This level is designed to complete the basic orientation, and to provide sufficient knowledge and ability to enable the enrollee to enter one of the human service areas and perform typical sub-professional tasks.

Qualifications

Twelve (12) months of successfully completed experience as a New Careers Enrollee which included orientation and on-the-job training in the goals and functions and activities of a human service area and successfully completed classroom training in the fundamental academic skills. Examples of human service areas are library, social welfare, employment, education and paramedical.

Opportunities

Opportunities in the human service areas are expected to increase. There is a marked effort to increase training and positions for para-professionals.

Openings for the State of Hawaii are presently affected by the Governor's freeze on all State positions.

PATROLMAN I
(D.O.T. 375.268)

Job Summary

This is the entry level in the Patrolman series. The Patrolman I makes patrols, generally by motor vehicles, through an assigned area; watches for fire, trespassers, or other irregularities; prevents acts of theft or vandalism; investigates and reports suspicious persons or unusual incidents; maintains law and order on premises patrolled; checks the security of buildings, materials, and equipment; checks boats or other craft to determine whether they are properly secured at moorings; reports fire hazards; prevents the entry of unauthorized persons to restricted areas; takes into custody persons who violate laws, rules and regulations governing the protection of property; serves eviction notices; issues citations for violations of traffic rules and regulations; recommends changes in traffic rules and regulations when necessary; makes arrests; carries and may use firearms in emergencies; prepares activities and investigation reports; may occasionally instruct or oversee the work of others.

Qualifications

1. One full year of experience in the enforcement of security regulations or in the protection of property
2. Graduation from high school
3. Possession of valid State motor vehicle operator's license
4. Eligibility for a Special Police Officer's commission
5. Knowledge of law enforcement techniques and methods of maintaining law and order
6. Ability to understand and carry out oral and written instructions; explain to others and apply laws, rules and regulations; size up people accurately and adopt effective courses of action; get along well with others; learn use and care of firearms; prepare written reports

7. Personal Qualities: good physical condition, including good vision and hearing; integrity; tact; alertness; neatness; reliability; good judgement; and willingness to work irregular hours.

Current Salary

Start: $529/mo.
Range: $675/mo.

Career Ladder Range:
$529 - $820/mo.

Employment Outlook

Openings are expected to continue as a supplement to an expanding Police Protection Force.

Promotional Opportunities

The entry level in this series leads to the positions of Patrolman II and III.

Experience in this type of work could lead to other type of law enforcement and public protection occupations as Fish and Game Warden, Private Security Officer, etc.

Places of Employment

State of Hawaii
Protection and Security Agencies

PEST CONTROL AID I
(D.O.T. 389.884)

Job Summary

This is the entry trainee level in the Pest Control Aid and Technician series which is designed to provide career introduction and development in the support functions of entomology, noxious weed or plant quarantine. The Pest Control Aid I assists with weed or plant quarantine. The Pest Control Aid I assists with such tasks as collecting, counting and recording data on biological specimens on field surveys or under controlled laboratory conditions; distributing beneficial species in suitable locations; collecting certain host material in the field, cultivating some under prescribed conditions and preparing some for host pest studies.

The Pest Control Aid trainee also performs simple, repetitive manual tasks such as cleaning biological laboratory equipment; planting and cultivating host plants for laboratory studies; feeding well established insects under mass propagation; assembling and repairing simple insect cages; cleaning chemical mix and spray equipment; and maintaining equipment in good operating condition. Training in work typical of higher-level pest control aid positions may also be received.

Qualifications

1. Training and experience:
   a. graduation from high school
   b. excess work and specialized experience may be substituted for education on a year-for-year basis in the higher level positions
2. Knowledge of arithmetic
3. Ability to follow oral and written instructions; learn to distinguish variations in host material, sources of supply and methods of preparation; make simple field/lab observations; keep records; make reports
4. At the higher levels, applicants must qualify on an examination covering the knowledges and skills appropriate for the class.

Promotional Opportunities

Positions which are part of the designated career ladder are:

- Pest Control Aid II
- Pest Control Technician III and IV

Place of Employment

State of Hawaii

Current Salary

Starting: $414/mo.
Range: $529/mo.

Career Ladder Range:
$414-$709/mo.

PUBLIC SERVICES

POLICE SERVICES OFFICER I
(D.O.T. 375.168)

Job Summary

This is the entry level in the Police Services Officer series. The trainee enters a police cadet program and participates in a supervised training program involving orientation, instruction and basic job training in the principles, practices, procedures and techniques of police work; rotates among the different units of the department and performs or assists in a variety of routine clerical/supportive subprofessional police functions; picks up and delivers persons or materials; provides general information to the public as required; may assist in various in-service and other training classes; may accompany police officers in the field as an observer.

Qualifications

1. Training and experience: A combination of education and experience substantially equivalent to graduation from high school
2. License Requirement: Possession of a valid motor vehicle operator's license
3. Knowledge of the geography of the City and County; the economic, social and racial composition of the community
4. Ability to learn and apply laws, ordinances, rules and regulations; learn police principles, practices, methods and techniques; follow oral and written instructions; keep records and prepare simple reports; operate various office and other equipment and appliances
5. Physical and Age Requirements:
    a. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties
    b. All male candidates shall be between the ages of 18 and 20 years.
    c. Minimum height: 5'8"
    d. Minimum weight: 140 pounds, with a correct ratio of weight to height above these minimums
    e. Good eyesight
    f. Good physical condition and agility

Promotional Opportunities

Police Services Officer I is the entry level for Police Services Officer II and other Police Protection area positions.

Current Salary

Starting: $504/mo.
Range: $643/mo.

Employment Outlook

There is continuous recruitment for Police Services Officers. Position openings within this career area are expected to continue along with urban expansion and population growth within this state.

POLICE SERVICES OFFICER II
(D.O.T. 375.168)

Job Summary

As a trainee, the Police Services Officer attends police recruit school and receives instruction and training in various phases of police work and in a wide range of subject matter areas: receives on-the-job training by accompanying experienced police officers on foot and motor patrols; performs a variety of law enforcement duties under supervision of senior officers; makes arrests and assists in interviewing witnesses, victims, and suspects or other suspicious characters; assists in safe-guarding persons and property; renders first aid as required; serves warrants, subpoenas and penal summonses; assists in preparing reports of activities; may testify in court; qualifies with small arms; may act in an undercover capacity.

Qualifications

1. Training and experience: A combination of education and experience substantially equivalent to graduation from high school and
    a. two years of general work experience or
    b. one year of experience as a police Services Officer I.
2. License Requirement: Possession of a valid motor vehicle operator's license
3. Knowledge of the geography of the City and County; the economic, social and racial composition of the community
4. Ability to learn and explain laws, ordinances, rules and regulations; learn and apply police principles, practices, methods, and techniques; follow oral and written instructions; deal courteously with the public; keep records and prepare simple reports
5. Physical and Age Requirements:
    a. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties
    b. All male candidates shall be between the ages of 20 and 35 years, inclusive; minimum height: 5'8"; minimum weight: 145 pounds, with a correct ratio of weight to height above these minimums; good eyesight, and good physical condition and agility.

c. All female candidates shall be between the ages of 21 and 31 years, inclusive; minimum height: 5'4"; minimum weight: 110 pounds, with a correct ratio of weight to height above these minimums; good eyesight, and good physical condition and agility.

Promotional Opportunities

Progress within this career area is as follows:

- Metropolitan Police Officer
- Metropolitan Detective
- Police Sergeant
- Police Lieutenant
- Police Captain
- Police Major
- Police Inspector
- Metropolitan Police Assistant chief

Current Salary

Starting: $612/mo.
Range: $781/mo.

POWER MOWER OPERATOR
(D.O.T. 409.883)

Job Summary

A Power Mower Operator operates passenger type power mowers in cutting grass in parks and other landscaped areas such as along streets and highways,medial strips, around buildings, etc.; maintains power mower by sharpening blades, oiling, greasing and cleaning; adjusts belt or chain drive and cutting mechanisms; cleans spark plugs; may occasionally perform other groundskeeping functions such as weeding, planting, watering, fertilizing and spraying as required; may operate a light truck in transporting men and equipment to and from work locations.

Qualifications

1. Training and experience: A combination of education and experience equivalent to completion of the eighth grade and one year of manual labor or groundskeeping experience, some of which shall have been in the repair or operation of passenger type motorized equipment. Possession of a motor vehicle operator's license.
2. Knowledge of the operation and maintenance of passenger type power mowers, methods and procedures used in grounds maintenance work; occupational hazards applicable to the work as well as knowledge of safety precautions
3. Ability to operate, maintain, and make minor repairs to power mowers; able to understand and follow oral and written instructions
4. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties

Current Salary

$407/mo. Starting
$495/mo. Range

Places of Employment

State of Hawaii
City and County of Honolulu
Hawaii, Maui and Kauai Counties
Private Groundkeeping Companies
National Parks/United States Gov't
Private Landowners/Clubs, etc.

Promotional Opportunities

Progression in this class leads to the position of Senior Mower Operator. Opportunities are also avialable within the Civil Service System for other light equipment operator occupations such as:

Water Sprinkling Machine Operator
Fork Lift Operator
Tractor Mower Operator
Light Truck Driver
Streetsweeper Operator
Chauffeur

RODENT CONTROL MAN I
(D.O.T. 389.884)

Job Summary

The Rodent Control Man I prepares poisons and insecticides for use in eradicating rodents, fleas, and other insects; baits and sets traps; searches for and gases, sprays or dusts fleas and rodent harborages and burrows; tags rodents and identifies them as to sex, species, where trapped; maintains traps in good working order; enters homes to search for evidence of rodent and insect infestation; spreads poisons in the field where not accessible to farm animals or humans; prepares simple reports as to his duties; may perform manual work such as cutting or burning grass or cleaning laboratory premises; may operate a light vehicle.

Qualifications

1. Experience and training: some experience in manual work and completion of the eighth grade
2. Knowledge of common hand tools and their uses
3. Ability to understand and carry out oral and written instruction; fill out report forms; learn methods of trapping and poisoning rodents and insect pests; learn precautionary methods of handling poison
4. May require a valid State motor vehicle operator's license

Current Salary

Starting: $407/mo.
Range: $495/mo.

Places of Employment

State of Hawaii
Private pest controllers

Promotional Opportunities

Two years of experience in this position leads to the next level of Rodent Control Man II which is of a more supervisory nature. Experience may also lead to work with private pest control or exterminator companies. The highest level in this area is the Rodent Control Foreman.

SOCIAL SERVICE AID I
(D.O.T. 195.108)

Job Summary

This is the training level in the Social Service Aid and Assistant series. At this level, the Aid receives training in the goals, functions and activities of a specific social service program; observes the interaction of professional workers with their clients or tenants; learns to perform tasks which will assist professional workers in expediting and facilitating the conduct of their professional work; performs simple clerical work; transports clients to courts, clinics, other agencies, etc.; picks up and delivers mail, materials, supplies and equipment; prepares simple reports.

Qualifications

1. Education: graduation from high school; at the higher levels of employment, training received at an accredited college or university may be substituted for experience on a year-for-year basis up to a maximum of three years.
2. At the higher levels of employment, the applicant must demonstrate ability to perform the duties of the position for which he is being considered.
3. Knowledge of basic skills in reading, writing and speaking
4. Ability to learn the goals and functions of a specific social service program; ability to perform simple clerical tasks; ability to establish and maintain favorable relationships with clients or tenants.
5. Must be able to meet the physical and health standards of the position
6. Satisfactory completion of a social service aid and assistant curriculum at an accredited community college, technical school or junior college which resulted in a Certificate of Achievement or Associate of Science or related degree. Education may be substituted for experience on a year-for-year basis up to two years: this would allow entry at the Social Service Aid III level.

Place of Employment

State of Hawaii

Current Salary

Start: $375/mo.
Range: $480/mo.

Career Ladder Range: $375 - $1046/mo.

Professional Range: $529 - $1705/mo.

Promotional Opportunities

The entry level in this class leads to the following designated progression:

Social Service Aid II and III
Social Service Assistant IV, V, VI, VII and VIII

Interest and ambition in this area may also lead to the professional roles of Social Worker, Vocational Rehabilitation Specialists, etc.

TREE TRIMMER I
(D.O.T. 959.884)

Job Summary

The Tree Trimmer I is primarily concerned with tree trimming tasks which involve working at heights. He operates a power saw and uses various pruning tools and trims trees, shrubs, and hedges on State grounds; climbs trees from varying heights and cuts branches; performs other landscaping tasks; hauls rubbish to the incinerator; helps with nursery work; may operate power equipment.

Qualifications

1. Experience and training:
    a. completion of the eighth grade
    b. one year of work experience in the care of private lawns, public grounds, or other landscape areas, which shall have included the trimming and pruning of trees and shrubbery
2. Knowledge of the use and care of pruning tools, tree-climbing equipment, and power saws, and safety precautions necessary in working at heights
3. Ability to understand and carry out oral and written instructions; operate vehicles and simple machinery; work above ground level at varying heights; climb trees using spikes and other equipment; agility; manual dexterity

Places of Employment

State of Hawaii

City and County of Honolulu

Hawaii, Maui and Kauai Counties

Private Tree Trimming Companies

Current Salary

Starting: $436/mo.
Range: $530/mo.

Promotional Opportunities

Progress in this area is as follows:

Tree Trimmer II
Tree-Trimmer-Truck

See also Hospitality and Recreation Section: Tree Trimmer Helper

Job Summary

This is the entry trainee level in the Vector Control Inspector series. It is designed to develop the trainee to perform work assignments through which he advances as part of his progression to full performance as an independent worker. The trainee attends orientation and training sessions; learns basic laws, rules and regulations of environmental public health sanitation with emphasis in the area of vector control; learns the use of specialized equipment such as fogging machines, gassing machines, etc., tools and equipment and chemicals used in vector control activities; participates in field and laboratory activities; make light trap collections and sorts, identifies and sexes the species of mosquitoes for measurement and surveillance purposes; keeps equipment and tools in working order; performs routine premises inspection for simple cases of vector problems; prepares simple reports.

Qualifications

1. Training and Experience:
   a. Graduation from high school
   b. In the higher level positions, certain excess work or specialized experience may be substituted for education on a year-for-year basis.
   c. In the higher level positions, progressively responsible specialized work experience is required.
   d. Graduation from an accredited college or university with a major in chemistry, biology or closely related subject area may be substituted for one year of specialized experience in the higher levels.
2. Knowledge of elementary biology, chemistry and hygiene
3. Ability to follow oral and written instructions; learn the laws, rules and regulations, fundamental practices, principles, techniques, methods, and control measures in the vector control program; learn to operate specialized equipment; make simple field and laboratory observations;

learn to deal effectively with others; make simple oral and written reports

4. Most positions require a valid State motor vehicle operator's license.

5. Applicant must be able to pass a standard physical examination.

Promotional Opportunities

This is the entry level for progress in the Vector Control Inspector Series as follows:

Vector Control Inspector II, III IV, V and VI

Current Salary

Starting: $504/mo.
Range: $643/mo.

Career Ladder Range: $504 - $1046/mo.

Place of Employment

State of Hawaii

WATER METER MECHANIC HELPER
(D.O.T. 710.281)

Job Summary

This is the entry level in the Water Meter Mechanic series. The Water Meter Mechanic Helper assists in the disassembling, cleaning, repairing, assembling, testing and calibration of water meters; assists in adjusting, repairing and testing of meters in the field; replaces broken meter parts; installs new registers; operates power tools such as grinders, buffers, lathes, drills, cutters, etc. to remove corrosion and to shape and cut parts; receives, records and prepares new meters for the initial testing; assists in keeping inventory of materials; assists in the maintenance of the meter shop and equipment.

Qualifications

1. Training and experience: A combination of education and experience equivalent to completion of the eighth grade and one year of experience in work involving the repair and maintenance of mechanical instruments or equipment
2. Knowledge of common practice, tools, equipment and materials used in mechanical repair work; safety precautions applicable to work
3. Ability to perform mechanical work; read meters; operate common power equipment and tools; keep accurate records; understand and follow oral and written instructions
4. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties

Current Salary

Starting: $468/mo.
Range: $569/mo.

Employment Outlook

Positions may be expected to open up with the continued rise in urban expansion and population.

Promotional Opportunities

This is the entry level for the Water Meter Mechanic series. Progress in this career area is as follows:

Water Meter Mechanic
Working Foreman
Foreman
General Foreman

Places of Employment

City and County of Honolulu
Hawaii, Maui and Kauai Counties

WATER SERVICE INSPECTOR I

Job Summary

This is the entry level class in the Water Service Inspecting series. The Water Service Inspector I is essentially a helper performing simple and routine investigations independently and assisting in the more difficult ones by performing various tasks assisting higher level inspectors in locating pipelines, meters, and leaks by moving detecting devices over selected locations as instructed. He assists in conducting water flow and friction loss tests by installing and removing pressure gauges used for tests; inspects ground area along pipelines to detect leaks; prepares pipeline-location sketches; conducts routine inspections and investigations by checking consumers' service systems to see whether interruptions and reductions of water service are due to closed or partially closed valves; makes follow up checks of piping systems to see whether repairs recommended as a result of inspections have been carried out.

Qualifications

1. Training and experience: A combination of education and experience equivalent to graduation from high school and one year of experience in work connected with water meters, plumbing or pipefitting
2. Knowledge of common tools, fixtures, equipment and material used in water service
3. Ability to make simple field inspections and sketches; read water meters; maintain simple records; deal tactfully and effectively with the public; follow oral and written instructions
4. Must meet the health and physical condition standards deemed necessary and proper for performance of the duties

Current Salary

Starting: $457/mo.
Range: $583/mo.

Places of Employment

City and County of Honolulu
Hawaii, Maui and Kauai Counties

Promotional Opportunities

This is the entry level for the Water Service Inspecting series. Progress in the career area is as follows:

- Water Service Inspector II
- Water Service Inspector III
- Senior Water Service Inspector
- Assistant Supervising Water Service Inspector
- Supervising Water Service Inspector

Employment Outlook

Postions may be expected to occur with the continued rise in population and concurrent urban expansion and urban renewal.

PUBLIC SERVICES

WATER SYSTEM SERVICEMAN HELPER
(D.O.T. 710.281)

Job Summary

The Water System Serviceman Helper assists in the maintenance of a domestic water distribution system. He performs minor repairs of mains and pipelines; cuts, threads, bends, and reams pipes by means of hand tools or a power machine; takes daily readings of incoming water to tanks; takes monthly water meter readings for billing of consumers; cleans water intakes; cleans trails used in the inspection of water systems; chips and paints steel water tanks; installs meter boxes; cleans and maintains equipment; assists in requisitioning equipment.

Qualifications

1. Training and experience: completion of the eighth grade; one year of work experience assisting in the maintenance and installation of pipelines and appurtenances or any equivalent combination of experience and training
2. Knowledge of practices, tools, equipment and materials used in the pipefitting trade; methods of caring for mechanical tools
3. Ability to operate pipefitting tools and equipment; perform manual labor; do mechanical work; understand and follow oral and written instructions
4. Meet physical and health condition standards

Promotional Opportunities

The position leads directly (3 years of helper experience - similar to apprenticeship) to the position of Water System Serviceman.

The experience in this trade could also lead directly to any of the positions in the Plumbing series.

Employment Outlook

Employment may be expected to expand to meet the needs of an expanding community and water supply system.

Current Salary

Start: $468/mo.
Range: $569/mo.

Career Ladder Range: $468 - $569/mo.

Plumber Range: $468 - $900+/mo.

Place of Employment

State of Hawaii
City and County of Honolulu
Hawaii, Maui and Kauai Counties
Private Plumbers; Trade/Supply

WILDLIFE MANAGEMENT AID I
(D.O.T. 040.081)

Job Summary

This is the entry level in the Wildlife Management Aid and Assistant series, and is limited to positions which are part of a career ladder to positions of higher level within this series. Under close supervision, the Wildlife Management Aid I assists with such tasks as gathering and recording wildlife data for biological studies, censuses and surveys, and trapping, banding and marking wildlife species for habit and distribution studies; learns to perform tasks essential to the day-to-day operation of public hunting grounds, and the development and maintenance projects on public hunting areas, wildlife sanctuaries and propagation facilities; performs manual tasks such as planting and caring of food crops for wildlife; feeding birds and animals; trapping, crating and transporting of wildlife; and constructing and maintaining animal pens, brooders, fences, water units, etc.

Qualifications

1. Training and experience:
    a. graduation from high school
    b. in the higher levels, excess work experience requiring the ability to read and comprehend and apply written directions or a high degree of verbal skill may be substituted for education on a year-for-year basis.
2. Knowledge of game birds and animals and their habitat in the State of Hawaii
3. Ability to follow oral and written instructions; learn the management, development and maintenance activities on wildlife areas; make simple field observations; keep simple records; make simple oral and written reports
4. Possession of a valid State motor vehicle operator's license
5. Must be able to qualify on an appropriate examination
6. Must be able to perform physically the duties of the position

Current Salary

Starting: $414/mo.
Range: $529/mo.

Place of Employment

State of Hawaii

Promotional Opportunities

Positions which are part of the designated career ladder are:

Wildlife Management Assistant II, III, IV, and V.

TRANSPORTATION

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TRANSPORTATION

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NATIONAL OUTLOOK

The transportation industry moves goods and people around the United States by air, sea, railroad and highway. It is the major industry division which employs unskilled or semi-skilled personnel such as taxi drivers, bus drivers, truck drivers, deckhands, and sailors. Some transportation agencies are owned by State and local governments and those which are privately owned are closely regulated by commissions and agencies to insure that they are operating in the public interest.

The largest single body of workers in the U. S. in the transportation business is truck drivers. Across the nation there are more than one million drivers; airlines have about a half million employees. In the transportation industry clerical workers comprise about 25% of the work force. Major blue collar workers include aircraft mechanics, vehicle mechanics, and seamen.

Employment outlook for the seventies is expected to one of moderate growth across the industry. Replacement needs will be high in most clerical positions because many women leave the work force to take on family responsibilities. Some areas of the transportation industry will be expanding at a rapid rate, such as air travel. Rising population, urbanization, and more suburban areas will continue to stimulate employment in local trucking. Little change in number of employment positions is expected in local transportation such as buses and taxis because consumers will probably continue to rely on private automobiles.

LOCAL OUTLOOK

As more people move to Hawaii the need for land transportation to provide a rapid means of moving numbers of people becomes more and more acute. Automobiles continue to flood the highways and city streets of Honolulu. At present there are more miles of pavement on Oahu than ever before, but in turn, there are more cars and trucks than before. In some places, during rush hour, it is almost as quick to walk as it is to dirve. Part of the problem is transportation. A good mass transit system may be an answer. There is one on the drawing board now to provide a fixed rail system with feeder lines to the populated parts of Oahu. If the plan is approved it could go into operation as early as 1978. Few jobs, however, will be created in terms of operators until completion of the project.

Although the shipping industry forecasts a decline nationally, there is hope that it will improve in Hawaii. Two new companies have begun transportation plans by means of ferries in Hawaii. One firm, Kentron, is offering shuttle service from Leeward Oahu to downtown areas. Another firm, Hulten Ferry, is planning interisland transportation for passengers and cars. This will be the first surface transportation for passengers in about twenty years. Several jobs will be available when these operations expand.

The air travel industry may see the most rapid growth rate in the Islands. At present there are two major carriers and some small air taxi operations. Although having just faced the brunt of an economic recession, they will probably begin experiencing growth again. As with many businesses, seasonal employment patterns are related to the tourist trade. Summer is busiest, requiring the hire of additional help. Having worked with the airline once is helpful when applying for employment again, so a summer job can be beneficial as a future employment possibility.

Further information is included at the beginning of each broad areas of ground transportation, sea transportation, and air transportation.

GROUND TRANSPORTATION OCCUPATIONS AND TRAINING PROGRAMS

Trucking, busing, and taxi driving are the basic occupations in movement of people and freight from point to point in Hawaii. There is only one small railroad operating in the Islands, on Maui, for transit of tourists from their hotels at Kaanapali to Lahaina and back.

Employment opportunities in ground transportation of people seem to be at a maximum for the present. There is a new transit system being considered for the populated areas of Oahu, but increase in employment will be slight until 1978 when operators will be needed. There is a high turnover of taxi drivers, but the total number of jobs in that area will not significantly increase in the next few years. Jobs will be available in the area, however, because of the turnover rate.

As the islands continue to become more populated, more trucking will be necessary. Heavy trucking includes cement carriers, freight movers, tankers, and other vehicles heavier than two tons. This area of transportation is expected to grow at a moderate rate through the 70's on Oahu as well as on the neighbor islands.

Training in this area can be obtained at the following schools:

Honolulu Community College
874 Dillingham Blvd.
Honolulu, Hawaii 96817

Hawaii Community College
1175 Manono Street
Hilo, Hawaii 96720

Kauai Community College
R. R. 1, Box 216
Lihue, Hawaii 96766

Leeward Community College
96-045 Ala Ike
Pearl City, Hawaii 96782

Maui Community College
310 Kaahumanu Avenue
Kahului, Hawaii 96732

TAXI DRIVER
(D.O.T. 913.363)

Job Summary

A taxi driver provides individual transportation, helps passengers in and out of taxis, handles luggage, picks up and delivers packages, provides sightseeing tours for out of town visitors; operates two-way radio, waits at taxi stands for passengers, keeps informed on where crowds will be gathering (Airport, Ala Moana, etc.) in order to pick up passengers; keeps records of time and place of passenger pick up, amount of fare collected, and destination. He may own the cab or rent it from the company. He may also be required to keep it clean.

Qualifications

1. Must have clean appearance and over 18 years of age and in good physical condition
2. Chauffeur's license required
3. Must clear FBI check of possible previous police record
4. At least eighth grade education is preferred

Promotional Opportunities

Dispatcher--it is almost impossible to advance in this field even by transferring to bus driver or truck driver.

Places of Employment

Transportation (taxi companies)

Current Salary

$2.00/hr. or a percentage of the fare. It depends on the company.

Employment Outlook

Many new taxi drivers will be needed in the years to come because of the high turnover rate. Since there is not assurance of steady income and long hours are required, many people use this as a stopgap until better employment can be found.

BUS DRIVER
(D.O.T. 913.363)

Job Summary

A bus driver follows time schedule of routes over city streets to get passengers to their destination. He checks tires, brakes, and lights on assigned vehicle. He makes frequent stops to allow entry and exit of passengers, answers questions pertaining to bus service; operates bus in varying conditions of traffic; may work non-scheduled runs for special trips by groups; keeps trip list of each day's work and submits it at the end of each day; reports accidents and assists if help is needed; may collect fares as passengers board bus; and insures that passengers are safely on or off bus before leaving bus stop.

Qualifications

1. Good health, between the ages of 18 and 40, passing a physical examination
2. An even temperament and emotional stability since close contact with the public is required
3. High school graduation preferred but not required
4. Chauffeur's license and some past driving experience

Promotional Opportunities

1. Dispatcher
2. Road supervisor

Promotion is extremely limited in this field since such few jobs are available in the job ladder.

Places of Employment

1. Transportation
2. Tourism
3. Government

Current Salary

$3.35 to $3.47/hr.

Employment Outlook

Stable. There will be few available positions in the State in the next few years, but vacancies will occur. Many drivers belong to the Teamsters Union and are hired from there.

TRANSPORTATION

TRUCK DRIVER
(D.O.T. 902.883)

Job Summary

A truck driver maneuvers big trucks and tractor trailers into tight places, through traffic, and up to loading platforms. He makes deliveries and pick-ups, checks delivery forms, performs driver maintenance on the vehicle; may load and unload truck, arrange load to coincide with delivery schedule, may supervise helper, may collect money, sign receipts, or bills of lading; reports activity at the end of the day and logs in needed maintenance on the vehicle if any is needed.

Qualifications

1. Must be 18 years old or older and in good health to be able to do some heavy lifting
2. At least two years of high school and preferably a graduate
3. Chauffeur's license and some driving experience to operate the vehicle used

Promotional Opportunities

1. Dispatcher
2. Supervisor

Advancement in this field is difficult because few opportunities are available in higher levels.

Places of Employment

1. Agriculture
2. Utilities
3. Transportation
4. Trade
5. Service
6. Government

Current Salary

$4.35 to $4.95/hr.

Employment Outlook

A moderate increase in drivers is expected through the 1970's. Many drivers are affiliated with the Teamsters Union or the general union regulating employment in the industry in which they work.

TRANSPORTATION

MECHANIC HELPER
(D.O.T. 620.28.)

Job Summary

A mechanic helper assists bus or truck mechanics in the performance of ordinary duties; makes minor repairs on specific equipment and progress to more difficult work; cleans, fuels, and lubricates equipment, works under direct supervision of qualified mechanic.

Qualifications

1. High school graduation is helpful.
2. Lower age limit is usually 18 years old.
3. Auto repair experience is helpful, but not required.
4. Training period sometimes lasts for two or three years until full qualification is met.

Promotional Opportunities

1. Mechanic
2. Supervisor

Places of Employment

1. Bus companies
2. Tour companies
3. Trucking companies

Current Salary

$3.05/hr.

Employment Outlook

Moderate increase through 70's.

Available apprenticeship programs and information can be obtained through:

International Brotherhood of
Teamsters, Local #996
1956 Ala Moana Blvd.
Honolulu, Hawaii 96815

TRANSPORTATION

MECHANIC
(D.O.T. 620.281)

Job Summary

A mechanic repairs heavy trucks or buses used for mass transit of transportation of heavy supplies and equipment; repairs large engines and drives trains, complex transmissions, air brakes, and other items dissimilar to automobile parts; performs preventive maintenance and pulls maintenance checks at regularly scheduled intervals to check brakes, steering, wheel bearings, and other parts; may specialize in one or two kinds of repair work such as engine or air conditioning; uses common handtools such as wrench, screwdriver, drills, and other shop equipment; may work as a team on large pieces of equipment and work under supervision of shop foreman.

Qualifications

1. Able to work on heavy equipment and determine cause of problem
2. May be required to have some formal training either in a trade school or as an apprentice
3. Completion of high school
4. May be required to have hand tools
5. Work as automobile repair man is helpful.

Promotional Opportunities

1. Shop foreman
2. Service manager
3. Service station manager

Places of Employment

1. Bus companies
2. Tour companies
3. Trucking companies

Current Salary

$3.05 to $3.67/hr.

Employment Outlook

Moderate increase is expected through the 70's. Most increase will be in tourism and trucking.

MERCHANT MARINE OCCUPATIONS AND TRAINING PROGRAMS

The United States has approximately, 1,000 vessels in the merchant marine service, and about 300-400 of these are Military Sea Command ships. Those ships which constitute the overall number are vessels over one thousand tons and either a tanker, cargo or passenger vessel. The liners have a scheduled run to specific ports and the tramp ships sail any port offering a profit. There may be less than five percent of the U.S. merchant marine fleet which regularly calls on ports in Hawaii.

Locally, merchant marine jobs are available from Matson Navigation and Seatrain Lines for transpacific shipment of freight and oil. Pacific Far East Lines, P. & O. Lines, States Lines, and American President Lines are the major lines carrying passengers to and from Hawaii. Inter-island service is offered by Young Brothers, a subsidiary of Dillingham. At present no inter-island passenger service is being offered, but the Hulten Ferry system is expected to be in operation in 1973 to carry passengers and vehicles within the island chain.

About one-fourth of the jobs in merchant marine occupations require licensed personnel. The ship's officers are licensed as captain, mate or engineer. There are three departments in the ship's crew: deck, engine, and steward. A decision should be made when entering the field as to which department one is interested in because it is impossible to switch from one department to another without starting down at the bottom of the ladder each time.

General employment outlook is expected to decline unless the federal government changes its policy concerning the merchant marine fleet. Because of higher ship building and manning costs in the U.S., it is difficult to compete in the shipping trade today, and the U. S. fleet continues to shrink in size. The increase in mechanization is an added factor resulting in fewer jobs. Emphasis will be places on fewer, but more highly trained men, so a good basic education is a must for people entering the job market in merchant marines for the future.

Training of merchant marine officers is available for deck and engine officers at the Pacific Maritime Academy, located in Honolulu at the Ala Moana Yacht Harbor. Students at the school are shown personal attention and receive individual help if needed, and class size is limited to twelve students. The courses of instruction are:

License Preparation for Merchant Marine Deck Officers, 3rd mate to Master, including Celestial Navigation and Piloting. Time: 4 months. Cost: $375.

Pacific Islands Merchant Marine Officer's Training Course, including Celestial Navigation and Piloting. Time: 3 months. Cost: $300.

Celestial Navigation meets for two months with 48 hours of instruction. Cost: $150.

Ocean Operator License Preparation meets for two months with 48 hours of instruction. Cost: $185.

Motorboat Operator License Preparation meets for two months for 48 hours of instruction. Cost: $185.

Sailmaster meets daily for six weeks--a total of 120 hours. Cost: $100.

Radar Endorsement meets daily for six weeks--a total of 120 hours. Cost: $50.

Harbor Pilot meets daily for six weeks--a total of 120 hours. Cost: $185.

Scholarships are available for persons of Hawaiian ancestry who have attended Kamehameha Schools and persons from the Waianae Coast who are interested in the Merchant Marines as a career. Further information concerning the school may be obtained from:

Captain R. L. Alverson
Pacific Maritime Academy
1739 C-1 Ala Moana
Honolulu, Hawaii 96815

For more general information, the following may be consulted:

Office of Maritime Manpower
Maritime Administration
U. S. Department of Commerce
Washington, D. C. 20235

National Maritime Union of America
36 Seventh Avenue
New York, N. Y. 10011

International Organization of Masters, Mates and Pilots
39 Broadway
New York, N. Y. 10006

National Marine Engineer's Benefit Association
17 Battery Place
New York, N. Y. 10004

SHIP COOK
(D.O.T. 315.131)

Job Summary

A ship's cook assists the steward in preparing meals aboard ship, draws supplies from storeroom, works with other galley workers, and is responsible for keeping the galley clean and orderly. He may do ship's baking if no baker is aboard. He supervises utilitymen, who work in the kitchen. This job requires no specific skill and may be considered the first step in working up to cook.

Qualifications

1. Must be able to perform regular cooking duties for a large group of people
2. Must be a union member
3. Must have some knowledge of adequate and balanced diets

Promotional Opportunities

1. Chief cook
2. Steward

Places of Employment

1. Matson Navigation
2. Seatrain Lines

Current Salary

$867/mo.

Employment Outlook

Expected to decline during the 70's. However, cooks are needed in Hawaii for tourism, so jobs are available for experienced men in this area.

UNLICENSED ENGINEERS
(D.O.T. 911.887)

Job Summary

There are several different job titles in the unlicensed engineer department from the unskilled wipers, who are responsible for keeping the engine room and equipment clean, to specialists who may handle the operation of refrigeration equipment. Oilers inspect machinery for overheating, and lubricate all moving parts. They may also help the engineer repair the engines. Firemen-watertenders check and regulate the amount of water in the boilers, regulate steam pressure, and clean boilers and related equipment. The electrician works directly for the engineer and keeps the electrical equipment in good repair.

Qualifications

1. Must have seaman's paper for Coast Guard
2. Must belong to a union, because that is where hiring takes place
3. Must know overall job area in order to progress

Promotional Opportunities

1. Oiler
2. Fireman-watertender
3. Electrician
4. Third assistant

Places of Employment

1. Dillingham Corporation
2. Young Brothers
3. Matson Navigation
4. Seatrain Lines

Current Salary

$746 - $867/mo.

Employment Outlook

Number of positions will decline during the 70's unless government subsidizes shipping.

TRANSPORTATION

ORDINARY SEAMAN
(D.O.T. 911.887)

Job Summary

An ordinary seaman performs general deck maintenance work such as scrubbing decks, coiling and splicing ropes, chipping rust, and painting. Aboard ship, he may perform other types of general maintenance work including cleaning the quarters of the unlicensed personnel of the deck department. An ordinary seaman may relieve the helmsman and lookout.

Qualifications

1. Previous experience in the Navy or Coast Guard is helpful.
2. One must belong to a maritime union, because unlicensed seamen are employed from union halls.
3. No specific educational requirements are stated.

Promotional Opportunities

1. Able seaman
2. Boatswain

Places of Employment

1. Dillingham Corporation
2. Young Brothers
3. Matson Navigation
4. Seatrain Lines

Current Salary

$746-775/mo.

Employment Outlook

A slight decline in unlicensed seamen is expected during the 70's/

ABLE SEAMAN
(D.O.T. 911.884)

Job Summary

An able seaman must have a thorough knowledge of all parts of the vessel and be able to handle all gear and deck equipment; act as helmsman or quartermaster to steer the ship, usually taking two-hour turns at the wheel, and as lookout who reports sightings to the watch officer; is responsible for rigging, overhauling, and stowing cargo-handling and other equipment; must be able to tie knots and handle mooring lines when the ship is docking or departing. He must perform general deck work similar to that of ordinary seaman; must know fire fighting methods and fire control; and must know how to launch life rafts.

Qualifications

1. Same as for ordinary seaman and at least one year experience aboard seagoing vessel
2. Must be able to pass a Coast Guard examination for limited endorsement as able seaman
3. Must be at least 19 years old

Promotional Opportunites

1. Boatswain
2. Deck utilityman
3. Carpenter

Current Salary

$809/mo.

Places of Employment

1. Dillingham Corporation
2. Young Brothers
3. Matson Navigation
4. Seatrain Lines

Employment Outlook

A slight decline in all merchant marine occupations is forecast for the 70's.

THIRD ASSISTANT ENGINEER
(D.O.T. 197.130)

Job Summary

A third assistant engineer supervises the operation and maintenance of the lubrication system and engine room auxiliaries. He may be employed as a day man and is responsible for the electrical or refrigeration systems aboard. On smaller vessels, he may assume some of the responsibility of the second assistant engineer, and have direct charge of the boiler, water-feed system and other associated equipment. He may supervise the cleaning of the boilers and the related equipment.

Qualifications

1. Minimum age of 19 and in good health
2. Must hold license as third assistant engineer from the Coast Guard
3. Must have an in-depth knowledge of propulsion systems, electricity, plumbing, steam fitting, metal shaping and assembly, and ship structure
4. No specific educational requirements are established, but a prospective engineer must spend three years in the engine department of a ship at sea.

Promotional Opportunites

1. Second assistant engineer
2. First assistant engineer
3. Chief engineer

Current Salary

$959 - $1,035/mo.

Places of Employment

1. Dillingham Corporation
2. Hulten Ferry System
3. Young Brothers
4. Kentron Hawaii
5. Matson Navigation
6. Seatrain Lines

Employment Outlook

There will be a moderate decline during the 70's, but a few new engineers will be needed to fill vacancies caused by retirement.

SECOND ENGINEER
(D.O.T. 197.130)

Job Summary

A second engineer takes direct charges of the boiler and other equipment such as water system, pumps, and heater system, and is responsible for maintenance and proper functioning as well as cleaning of the boilers and steam generator.

Qualifications

Same as for the First Engineer, except only four years at sea are required.

Places of Employment

Same as for the First Engineer

Current Salary

$1,000/mo.

Employment Outlook

A slight decline is expected in the 70's.

CHIEF ENGINEER
(D.O.T. 197.130)

Job Summary

A chief engineer supervises the engine department and is responsible for the operating efficiency of engines and all other mechanical equipment. He oversees the operation of the main power plant and auxiliary equipment while the ship is underway and is responsible for logging in fuel consumption and engine performance.

Qualifications

1. Must have spent at least five years at sea and worked in engine department.
2. Must be licensed as first engineer by U.S. Coast Guard, be at least 23 years of age, in good health and a U.S. citizen
3. No formal educational requirements have been established, but in order to pass the licensing requirement some definitive knowledge of engineering is necessary.

Promotional Opportunities

This is the highest rank held by a member of the engine department, and it is not transferable to other departments.

Current Salary

$1,045 - $1,156/mo.

Places of Employment

1. Matson
2. Seatrain
3. All ocean-going vessels
4. Dillingham Corporation

Employment Outlook

A slight decline is expected in this occupation during the 70's.

RADIO OPERATOR
(D.O.T. 193.282)

Job Summary

The radio operator is responsible for maintaining radio equipment. Most ships carry from one to six operators. He sends and receives messages by voice or Morse code to other ships and to land bases. He receives and records time signals, weather reports, position reports, and other navigation and technical data. He may maintain depth equipment and other navigational machinery.

Qualifications

1. Must hold first or second class radio telegraph license from Federal Communications Commission
2. Must hold Coast Guard license which requires six months' radio experience at sea; if only one radio operator is aboard

Promotional Opportunities

Radio operation of larger ships
Head radio operator if several operators are employed

Places of Employment

1. Matson
2. Seatrain
3. States Lines
4. Pacific Far East Lines
5. President Lines
6. All ocean-going vessels over one thousand tons.

Current Salary

$900 to $1.050/mo.

Employment Outlook

Aboard ships there will be a decline in job openings since the U. S. merchant marine fleet is shrinking in size.

PURSER
(D.O.T. 197.168)

Job Summary

The purser is a staff officer who is responsible for performing the paperwork required to enter and clear the vessel in each port. He also prepares payrolls and assists passengers. He may operate as pharmacist's mate in improving medical care aboard cargo and tankers.

Qualifications

1. He must know administrative procedures and be able to handle paperwork for the captain and crew to enable the ship to enter each port.
2. High school education is minimum and college is preferable.

Promotional Opportunities

Administrative positions on shore.

Current Salary

$656 to $806/mo.

Places of Employment

1. Matson Navigation
2. Seatrain Lines
3. All passenger liners

Employment Outlook

Few positions will open during the next few years.

THIRD MATE
(D.O.T. 197.133)

Job Summary

The third mate is responsible for the care and maintenance of the navigating bridge and the chartroom. He functions as the signal officer and is in charge of all signaling equipment and assists in the supervision of cargo loading and unloading operations. He inspects life boats and other lifesaving equipment. On smaller ships he assumes some of the responsibility normally held by the second officer, and maintains navigation equipment.

Qualifications

1. Must be at least 19 years of age and a licensed seaman as determined by the Coast Guard
2. Must be knowledgeable in the areas of seamanship, navigation, cargo handling, and the operation of the deck department in all its phases
3. No specific educational requirements have been established. Anyone who has served for three years in the deck department may apply for a third mate's license.

Promotional Opportunities

1. Second mate
2. First mate
3. Captain

Places of Employment

1. Dillingham Corporation
2. Hulten Ferry System
3. Young Brothers
4. Kentron Hawaii
5. Matson Navigation
6. Seatrain Lines

Current Salary

$959 to $1,035/mo.

Employment Outlook

Employment of ship's officers is expected to decline moderately during the 70's across the nation, but in Hawaii innovations in transportation may provide a steady or slightly increased need for ship officers.

SECOND MATE
(D.O.T. 197.133)

Job Summary

The second mate navigates the ship and sees that all needed navigation charts and equipment are aboard and properly maintained.

Qualifications

Same as for first mate, except 4 years of experience at sea

Places of Employment

Same as for first mate

Current Salary

$1,000/mo.

Employment Outlook

Same as for first mate

CHIEF MATE
(D.O.T. 197.133)

Job Summary

The chief mate or first mate acts as the captain's key assistant in assigning duties to the unlicensed seamen of the deck crew and insures order and orderliness in the deck department. He plans and follows through with the loading, stowing, and unloading of cargo. He helps the captain take the ship out of port and perhaps handles first aid treatment.

Qualifications

1. Must be licensed as first mate by U.S. Coast Guard, which requires U.S. citizenship, being over 23, and having general knowledge of ship operation
2. At least five years' experience at sea in the deck department

Promotional Opportunities

Captain

Current Salary

$1,045 - $1,156/mo.

Places of Employment

1. Matson
2. Dillingham Corporation
3. Hulten Ferry
4. Kentron
5. Tourboat companies
6. All ocean-going vessels

Employment Outlook

General decline in employment during the 70's.

TRANSPORTATION

CAPTAIN
(D.O.T. 197.168)

Job Summary

The captain or master is the person who is in charge of a sea going vessel, and acts as the ship owner's sole representative. He has complete authority for the operation of the ship and is responsible for order and discipline, safety of the crew, passengers, cargo and vessel. In port he may function as agent for the owners by conferring with customs officials. He may also act as play master.

Qualifications

1. Must be in good health, at least 21 years of age, and a citizen of the United States
2. Must have general knowledge of ship operation and function of deck, engine, and steward departments
3. Must have seven years' minimum experience in the deck department
4. To pass Coast Guard licensing formal training is generally required (see Pacific Maritime Academy under schools).

Promotional Opportunities

No higher rank can be held at sea, but promotional advantage can occur by captaining larger ships or by assuming a shore job.

Places of Employment

1. Young Brothers
2. Hulten Ferry
3. Kentron
4. Matson
5. Seatrain Lines
6. All ocean-going vessels

Current Salary

1. $1,821 and up
2. Captains on small vessels sometimes make less.

Employment Outlook

The general field of merchant marine work has been decreasing and is expected to continue to do so during the 70's.

CIVIL AVIATION OCCUPATIONS AND TRAINING PROGRAMS

Civilian aviation is expected to experience a rapid increase during the 70's. Employment in all areas is expected to grow, especially those areas which are directly related to the transportation of passengers and cargo. Airline ground and flight crews will expand. To a much lesser degree, the federal regulatory agencies will experience some growth.

Jobs in the airline industry are some of the highest paying in the United States. Clerks begin work with a base salary of $676/mo. with Aloha Airlines, almost double the beginning clerk salary in local businesses downtown. There is, however, compulsory union membership. Benefits include flying to other islands or the mainland or the Orient for nominal costs.

As a rule, the smaller the carrier, the lower the wage. For instance, charter airlines generally pay less than local airlines, which in turn pay less than transpacific airlines. Also, the fringe benefits decrease with the size of the carrier.

Some of the larger airlines such as Pan American and Northwest Orient have bases here for their flight crews. Local airlines have their crews based on Oahu because all maintenance is located at the Honolulu Airport. The Neighbor Islands have minimum ground crew personnel and reservationists. Therefore, most jobs become available on Oahu.

Training for airline careers is usually done by the airline industry when the employee is hired. However, two schools are available in Honolulu for the training of ground personnel: Cannon College of Commerce and Airline Schools Pacific. (For training of clerical personnel see Office and Clerical Sections.) All airlines provide their own training progrmas for their flight attendants. Pilot and copilot training is available at Aeromarine, Associated

Aviation Center, Hawaii Air Academy, and the Avaiation Center.

Airline Schools Pacific
2270 Kalakaua Avenue
Honolulu, Hawaii 96815

Cannon's College of Commerce
33 South King Street
Honolulu, Hawaii 96813

Aeromarine
Bldg. 210 Lagoon Drive
Honolulu, Hawaii 96819

Associated Aviation Activities
218 Lagoon Drive
Honolulu, Hawaii 96819

Aviation Center
203 Lagoon Drive
Honolulu, Hawaii 96819

Hawaii Air Academy
3031 Aolele Street
Honolulu, Hawaii 96819

Aircraft mechanics can receive instruction from:

Honolulu Community College
874 Dillingham Blvd.
Honolulu, Hawaii 96817

The facilities for training mechanics are at the airport near Aloha Airlines' general offices. The student must buy his own tools.

For further information it is advisable to contact the particular airline one is interested in. All have offices in Honolulu, including carriers which do not operate out of Hawaii.

AIRCRAFT CLEANER
(D.O.T. 382.138)

Job Summary

The aircraft cleaner performs the type of work required to keep aircraft clean. He must clean, wash, and polish the interior and exterior of the aircraft. He may clean the inside and outside of airport buildings and hangars, hangar equipment, and airport structures. He may sweep walks and cut grass and perform other custodial or janitorial work.

Qualifications

1. Must be unionized with appropriate union
2. Must be strong and healthy, able to perform moderate manual labor

Promotional Opportunities

1. Ramp Serviceman
2. Reservationist

Places of Employment

1. National airlines
2. Local airlines

Current Salary

$4.60/hr.

Employment Outlook

There will be an increase in aircraft cleaners as airlines bring more aircraft into the State.

RAMP SERVICEMAN
(D.O.T. 912.782)

Job Summary

A ramp serviceman services aircraft at ramp and terminal: loads, stows, unloads, picks-up and delivers all cargo, including mail, express, baggage, freight, and other supplies in accordance with flight loading plans. He maintains records of his activities; maintains the ramp area and equipment in a clean presentable condition and performs other general ramp service work such as changing tires, fueling, oiling, and greasing ramp equipment; services aircraft with fuel, lubricants and supplies; may be required to spot, tie down, and block aircraft; connect and operate electrical and mechanical devices required for ground service of aircraft; stand fire guard and wave off aircraft when mechanic personnel are not available.

Qualifications

1. High school graduation
2. Union membership
3. Mechanical aptitude and ability to pass a general test given by the airline
4. For local airlines, Hawaiian residence required

Promotional Opportunities

1. Mechanic
2. Ticket agent
3. Lead Ramp Serviceman

Places of Employment

1. Local airlines
2. Transpacific airlines

Current Salary

$5.36 to $5.70/hr.

Employment Outlook

Jobs in this area are expected to increase at a moderate to a rapid rate during the 70's.

AIRCRAFT MECHANIC
(D.O.T. 621.281)

Job Summary

Aircraft mechanics generally begin in one of two areas of specialization: airframe or power plant. Airframe mechanics work only on the parts of the aircraft not associated with the engines; power plant mechanics work only with the engines. Both perform periodic inspections of aircraft and make repairs when needed. They may be instructed as to which repairs are to be made by the lead mechanic. To progress to lead mechanic, a thorough knowledge in both airframe and power plant design is necessary. They must be able to use different kinds of tools, including power and pneumatic tools.

Qualifications

1. Licensed by FAA either as an airframe or power plant mechanic
2. If working on communications equipment, a license by the FCC is required.
3. At least 18 months' experience in either of the two major areas or 30 months in both airframe and power plant unless graduated from an FAA-approved school
4. High school graduation is a minimum and automotive repair is helpful.

Promotional Opportunities

1. Lead mechanic
2. Shop foreman
3. Inspector

Places of Employment

1. Local airlines
2. Transpacific airlines
3. Charter airlines
4. Aircraft sales offices

Current Salary

$6.33 to $7.00/hr.

Employment Outlook

At present the market is overloaded, but as airlines and the economy begin to recover, a rapid increase in mechanics is expected.

LEAD MECHANIC
(D.O.T. 621.281)

Job Summary

The primary purpose of the lead mechanic is to supervise mechanics and assign specific job repairs to be made to individuals. He has the responsibility of seeing that aircraft are operational, regular inspections are made, and major repairs are done immediately. Many times the lead mechanic will have both a power plant and an airframe license and can supervise work done on all parts of the aircraft. He may work at the flight line to make emergency repairs or may work in the maintenance hangar. He must be able to take apart complex aircraft components and make replacement of worn parts, assemble the components and replace them, then test for proper functioning.

Qualifications

1. An airframe or power plant license (or both) is required.
2. A minimum of three years experience of working on aircraft is necessary.
3. High school graduation is a minimum but generally a trade school program is desirable.

Promotional Opportunities

1. Inspector
2. Lead inspector
3. Shop foreman

Places of Employment

1. Local airlines
2. Transpacific airlines
3. Air taxi operations
4. Flight schools and dealers

Current Salary

$7.48 - $7.83/hr.

Employment Outlook

There will be an expected increase within the next few years, but presently there is an overage.

TICKET AGENT
(D.O.T. 912.368)

Job Summary

The ticket agent sells tickets, reserves seats and helps with ground handling of aircraft. He provides customers with flight schedules and fare information in person or over the phone. He reports reservations by teletype to other cities and feeds information into computers so tickets will not be sold twice. Filling out ticket forms with such information as flight number, passenger's name, destination, and intermediate stops is another function. Weighing baggage and tagging it for identification is an important element for a ticket agent.

Qualifications

1. High school graduation
2. A good personality and appearance
3. Ability to work with people

Promotional Opportunities

1. Reservations supervisor
2. Traffic representative

Places of Employment

1. Local airlines
2. Transpacific airlines

Current Salary

$4.60 - $5.20/hr.

Employment Outlook

Jobs in this field are expected to expand rapidly in the 70's because of passenger and freight traffic. A large turnover is expected because of the high number of young women in the field who leave to raise children.

FLIGHT ATTENDANT
(D.O.T. 352.878)

Job Summary

A flight attendant makes the passengers' flight comfortable and enjoyable He attends the preflight briefing. He checks the passenger cabin to see that it is in order and that the food and beverages are aboard. He greets the passengers, checks their tickets, assists with coats and luggage, checks seat belts, and gives briefings on emergency procedures. He also helps with small children; heats and serves meals and beverages, gives customs information and completes flight reports.

Qualifications

1. Attractive, poised, tactful, and resourceful
2. Age limit: 19 to 27 years. Height: 5' 2"-5' 9" with weight proportionate to height
3. Those applicants with two or more years of college are preferred. Nurse's training is helpful.

Promotional Opportunities

1. First steward (ess)
2. Supervising steward (ess)
3. Instructor

Places of Employment

1. Local airlines
2. Transpacific airlines

Current Salary

1. $450 to $675 for a minimum time of 60 to 80 hours per month
2. An overtime pay of $10 to $15/hr.

Employment Outlook

Rapid growth is expected with the anticipated growth of passenger air travel.

ASSISTANT DISPATCHER
(D.O.T. 912.168)

Job Summary

The assistant dispatcher coordinates flight schedules and operations in a specified area and insures that FAA and company flight and safety rules are observed. He informs passengers and crew if there is a change in schedule for bad weather or other reasons. For the amount of fuel to be taken aboard and the best route and altitude of flight, he confers with the pilot. There must be complete agreement between the pilot and dispatcher prior to departure. He may keep records of fuel, cargo, passengers, amount of time flown by each aircraft and other matters concerning flight safety. It is necessary to plot the progress radioed in by the pilot and to keep the crew informed of changing weather conditions. He also assists the dispatcher in coordination of all information.

Qualifications

1. Preference is given to men with two years of college or two years experience in air transportation. It is helpful to have a four-year degree with some science courses.
2. Most airlines fill these positions from within the company, specifically, with men who know ground operations.

Promotional Opportunities

1. Dispatcher
2. Air traffic controller

Places of Employment

1. Local airlines
2. Transpacific airlines

Current Salary

1. $625 - $798/mo.
2. $25 extra a month if holding an FAA dispatcher certificate

Employment Outlook

Few job openings because the field is small, and jobs are filled from within the company. There is little chance to enter the field without experience in the airline.

DISPATCHER
(D.O.T. 912.168)

Job Summary

A dispatcher coordinates flight schedules and operations in a specific area. He insures that the FAA and company rules are followed. He confers with the pilot and crew as to the best route, altitude, and speed to fly; informs them of the weather conditions. He must notify crew and passengers if changes are to be made in flight times. He supervises assistant dispatchers; keeps records of weight and balance of cargo load, hours flown by each aircraft, and availability of equipment. He also plots the plane's progress during flight as reported by the crew via radio.

Qualifications

1. An FAA dispatcher's certificate is required.
2. Attendance at an FAA dispatcher school or at least one year in the supervision of a certified dispatcher
3. Must pass examination by FAA on FAA regulations, weather analysis, air-navigation facilities, radio procedures, and airways and airport traffic procedures
4. A college background is desirable.

Promotional Opportunities

1. Management
2. Air traffic control

Places of Employment

1. Local airlines
2. Transpacific airlines

Current Salary

$1,027 - $1,425/mo.

Employment Outlook

No appreciable increase is expected in this area during the 70's.

TRANSPORTATION

AIR TRAFFIC CONTROLLER
(D.O.T. 193.168)

Job Summary

The air traffic controller gives instructions and information, and advises pilots by radio to avoid collisions and to minimize delays as aircraft fly around or between airports. There are two types of controllers: airport traffic controllers and air route traffic controllers. They give weather information and take off and landing instructions, and must be able to distinguish different aircraft on radar scopes and communicate with the pilots of all the aircraft they are controlling. Air route controllers use the flight plans filled by the crew prior to take off to insure that the aircraft is on course and proceeding as scheduled.

Qualifications

1. A formal training program with the Federal Aviation Agency which takes two to three years
2. An air traffic control certificate issued by the FAA
3. Ability to work under pressure of responsibility for other lives
4. Physical examination every year

Promotional Opportunities

1. Chief controller
2. FAA administration

Places of Employment

Federal Aviation Agency
P.O. Box 4009
Honolulu, Hawaii 96812

Current Salary

1. $550/mo. during 1st yr.
2. $770 - $1,500/mo., depending on type of work performed

Employment Outlook

Increase at a moderate rate during the 70's.

COPILOT
(D.O.T. 196.168)

Job Summary

A copilot assists the pilot in air-to-ground communications, monitors flight and engine instruments, and operates the flight controls. He confers with the weathermen about weather conditions and works with airline dispatchers in preparation of a flight plan. In addition to plotting the course to be flown and computing flying time between various points, the copilot checks the engine and instruments, controls, electrical and mechanical systems. He checks landing gear, requests landing instructions, and prepares flight reports at the end of each flight.

Qualifications

1. FAA commercial rating, multi-engine rating, and instrument rating, along with a rating for the particular type of aircraft flown
2. At least 1,200 hours flown in previous eight years
3. Preference to those who are 21-28 years old, 5'6" to 6'4" tall and between 140-210 lbs.
4. Vision correctable to 20/20 and not worse than 20/100 uncorrected
5. Licensed to operate radio by FCC
6. College education preferred

Promotional Opportunities

1. Pilot
2. Chief pilot
3. Operations manager

Places of Employment

1. Local airlines
2. Transpacific airlines
3. Air charters

Current Salary

1. $675 to $2,000/mo.
2. Depends on seniority and type of equipment flown

Employment Outlook

A rapid rise in employment of pilots is expected in the 70's though there is a slump at present.

PILOT
(D.O.T. 196.168)

Job Summary

The pilot operates the controls of aircraft and performs other tasks necessary in flying the aircraft. He supervises the flight crew, communicates with ground personnel, monitors flight instruments and engine. He plans the flight with the ground crew and prepares the flight plan with the dispatcher and others. He checks aircraft before take-off to insure proper functioning of all equipment. He supervises navigation of aircraft and monitors fuel load. He may work as check pilot and give proficiency flights to other pilots, or may give instruction to new pilots with the airline.

Qualifications

1. Must hold FAA airline transport rating, commercial rating, multi-engine rating, and instrument rating along with a rating for the type of aircraft flown
2. At least 23 years old
3. Excellent physical condition; 20/100 eyesight correctable to 20/20. Weight between 140 and 210; height between 5'6" and 6'4"
4. FCC radio license
5. College graduation preferred

Promotional Opportunities

1. Chief pilot
2. Operations manager

Places of Employment

1. Local airlines
2. Charter airlines
3. Transpacific airlines
4. Flight training centers

Current Salary

1. $1,000 to $4,500/mo.
2. Average is $2,000/mo.
3. Depends on seniority and type of aircraft flown

Employment Outlook

Rapid rise in employment is expected during the 70's.

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